NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

Division of Environmental Remediation

Site Name: Former Utica City Dump
Site Number: 633015
Contract Number: D013645
Location: Utica, Oneida County, New York

Contract Documents

Ramboll Americans Engineering Solutions

March 2026

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau E
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SECTION I

Advertisement and Notice to Bidders

New York State Department of Environmental Conservation
Division of Environmental Remediation

Project Name: Former Utica City Dump, Site No. 633015

Sealed bids for the Former Utica City Dump project will be received by the New York State Department of Environmental Conservation (NYSDEC), Division of Management and Budget Services, Bureau of Expenditures [625 Broadway, 10th Floor, Albany, New York, 12233-5027], until the time of 1:00 PM, Eastern Standard Time, on the date of **Thursday April 16, 2026**. The bids will be opened and read aloud at the above time and date. Telegraphic or other electronically transferred bids will not be accepted.

The project involves the implementation of remedial activities at the Former Utica City Dump site, located East of Leland Ave. along Incinerator Road, Utica New York. These activities include, but are not necessarily limited to the following:

- Clearing, grubbing and chipping;
- Installation of erosion and sediment controls;
- Construction of loading and unloading platforms
- Relocation of dump waste along the dump perimeter;
- Site grading;
- Excavate, dewater, load, haul, and place Beneficial Use Determination (BUD) materials
- Use the BUD materials to construct an evapotranspiration cover system over the dump site;
- Install drainage swales and culvert pipes;
- Construct gravel perimeter roads and access roads;
- Construction of engineered wetlands;
- Seed the dump cover system and all disturbed areas;
- Install chain link security fence.
- Demolition of an incinerator stack and abandon pump house with asbestos containing materials. Haul and disposal of all demolition asbestos containing materials to a certified disposal facility in accordance with all Laws and Regulations.

The estimated range for this work is: Over $45,000,000

Contract Documents are available in electronic format at no charge. Electronic copies of non-biddable Contract Document drawings, specifications, proposal forms, and addenda, may be downloaded from the Department website http://www.dec.ny.gov/chemical/59233.html. Hard copies (fees

apply) and/or FTP link to biddable Contract Documents are available upon request from the Division of Environmental Remediation, 12th Floor, 625 Broadway, Albany, New York, 12233-7017. Attn: Brianna Scharf, PE at (518) 402-5987 or Brianna.Scharf@dec.ny.gov.

Proposals will be accepted only from bidders who attend the Pre-Bid Conference. All proposals must be made on the official proposal form(s) and enclosed in the envelope which will be provided by the Department at the Pre-Bid Conference. Each proposal must be accompanied by a deposit or a bid bond in the amount of five-percent (5%) of Proposers bid amount. All Bidders must attend the Pre-Bid Conference to receive special requirements and/or instruction for the Contract. The Pre-Bid Conference will be held on **Tuesday, March 24** at the FORMER UTICA CITY DUMP, located at the parking area along Incinerator Road, Utica, NY, starting at 10:00 AM, Eastern Standard Time.

ATTENDANCE IS MANDATORY AS A CONDITION OF BIDDING.

Minority-, Women-, and Service-Disabled Veteran-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 Division of Environmental Remediation, Andrew Guglielmi, 12th Floor, 625 Broadway, Albany, New York, 12233-7011, shall be the Department's Designated Representative. Any questions, however, shall be directed to Brianna Scharf, PE, the Departments Project Manager and Designated Contact, at (518) 402-5987 or brianna scharf@dec.ny.gov

Bidders may receive announcements of procurement opportunities by signing up for the NYSDEC – DER electronic mailing list ("listserv") at – https://public.govdelivery.com/accounts/NYSDEC/subscriber/new

- IMPORTANT NEW INFORMATION FOR BIDDERS –

The New York State Department of Labor (NYSDOL) announced that starting January 1, 2026, contractors and subcontractors working in New York State must use the Electronic Certified Payroll Submissions system to report payrolls for public work projects and certain private construction projects receiving public funds. Payrolls must be submitted at least every 30 days for the length of the covered project. This NYSDOL requirement is in addition to and separate from payment application and processing requirements outlined in these Contract Documents.

THE NEW YORK STATE DEPARTMENT OF LABOR ANNOUNCES NEW ELECTRONIC CERTIFIED PAYROLL SUBMISSION REQUIREMENTS BEGINNING JANUARY 1 |

Department of Labor

Effective December 30, 2024, in order to be qualified to work on public works projects covered by Article 8 of the Labor Law, all contractors and subcontractors must be registered with the New York State Department of Labor (NYSDOL) in accordance with Labor Law § 220-i.

Prime contractors must be registered before submitting a bid. In addition, prime contractors and subcontractors must be registered prior to commencing any new work.

When submitting a bid for NYSDEC construction contracts, bidders must provide their NYSDOL registration number in the designated space on the Bid Form as well as their certificate of registration. Failure to provide a valid and verifiable registration number certificate from the NYSDOL Registry at the time of bid submission will result in disqualification of the bid.

Please note, per the NYSDOL website, NYSDOL estimates it may take approximately 3-4 weeks to review a registration application and issue a Certificate of Registration. Please act promptly and register now to avoid any disruptions in your bidding process or project schedule. For more information and instructions on how to become registered, please visit the NYS Department of Labor website at:

Contractor and Subcontractor Landing | Department of Labor

Amanda Lefton,
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 forms 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, corrections, or the provision of additional information.

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 Section VI - Agreement and made a part thereof as provided therein.

Application for Payment – Billing invoice in the form required 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.

As-Built Documents - documents conforming to the requirements outlined in Section VIII - General Conditions, Article 5.19.

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

Bidder - The person, partnership, corporation, joint venture or other authorized combination thereof, who has submitted a Bid. Bidder may also be referred to as “Offerer” or “Proposer” throughout the Bidding Documents and Contract Documents.

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.

Claim – Contractor's demand or assertion seeking as a matter of right, adjustment, interpretation, additional money, extension of time or other relief with respect to terms of the Contract.

Commissioner – The Commissioner of the New York State Department of Environmental Conservation.

Comptroller - The Comptroller of the Office of the New York State Comptroller.

Contract Documents - The Agreement, Addenda, 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, Appendix C, Appendix D, 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 allowable 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 the 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 non-defective 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 consisting of 24 hours lasting from midnight to midnight on any two consecutive dates.

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 of the General Conditions.

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

Department - The New York State Department of Environmental Conservation.

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

Design Engineer - The individual, partnership, corporation, joint venture, or any allowable combination thereof, who prepared and sealed the Contract Documents that were advertised for 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 to Resolve Disputes- Department employee responsible for resolving all disputes between Contractor and Project Manager, as identified in the Supplementary Bidding Information and Requirements.

Dispute - A Claim that is not resolved pursuant to Article 8.10 of Section VIII - General Conditions, becomes a Dispute to be resolved under Article VIII – Dispute Resolution of Appendix B – Standard Clauses for All New York State Department of Environmental Conservation Contracts.

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 on which the Agreement is executed 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 allowable 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 Article 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 Intent to Award - The written notice by Department to a Bidder stating that upon compliance by that Bidder with the conditions enumerated therein, within the time specified, Department intends to process contract through the appropriate New York State contract reviews.

Notice to Proceed - The Department’s written notice of Agreement execution by the Comptroller, stating pertinent information with which Contractor must comply 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 term “Project” means work at the same Site carried out pursuant to one or more sets of Contract Documents.

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

Progress Payment - Payment made to the Contractor as the result of an Application for Payment which accurately reflects the Contract work completed to date.

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 the 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 3.7 of Article 3 of the General Conditions or to emergencies under paragraph 5.23 of Article 5 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(s) - Person acting as assistant to the Resident Engineer who is assigned to the site or any part thereof.

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

Restricted Period - The time period which runs from contract bid advertisement to contract execution by the Comptroller.

Retainage - A percentage of a Progress Payment withheld by the Department from a Contractor as guaranty that all contract requirements will be satisfactorily completed.

Request for Interpretation - A document prepared on a form furnished by the Department which is to be used by the Contractor to request interpretation or clarification of the Contract Requirements by the Engineer.

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 horizontal and vertical area requiring Work by Contractor, as bounded by and represented in the Contract Documents.

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 allowable 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, vendor, or other entity providing materials or components for the Project.

Testing, Pre-Operational - All testing, associated trim-out 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(s).

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 underground 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 Representative(s) for the implementation of this Agreement, or for approval and direction called for therein, shall be the individual(s) 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 – Bid Instruction* 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 made available by Addenda. To be given consideration, all inquiries must be received in writing at the address set forth in Article 2 of Section IV, "Supplementary Bidding Information and Requirements", at least ten (10) days prior to the date fixed for the opening of Bids, or by the date indicated by Department. Any and all interpretations, and any supplemental instructions will be in the form of written Addenda made available in electronic format. 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 provided herein and submitted to:

Attention: Justin Lennox
Bureau of Expenditure Accounting
NYS Department of Environmental Conservation
625 Broadway, 10th Floor
Albany, New York 12233-5027

The outside of the envelope must bear the name and address of the Bidder, the Site Name, Site Number and Contract Number from the cover of the Contract Documents and be clearly marked as "Bid."

Department may consider non-responsive any Bid not prepared and submitted in accordance with the provisions hereof, may waive any informalities or irregularities in any bid, 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 as having attended the mandatory Pre-Bid Conference.

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 parties of the joint venture, then the Bid shall be accompanied by evidence of his or her authority to act on behalf of all parties of the joint venture.

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, upon request, at the address for notices in Article 1 of this Section.

Department will not accept any Bid which has been transmitted electronically (e.g. via Facsimile, Telephone, Telegraph, email, text) 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 persons or firms who have attended the mandatory Pre-Bid Conference.

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 four (4) year period, the Offerer / Bidder is debarred from obtaining governmental Procurement Contracts. Further information about these requirements, including a copy of the new lobbying law, can be found at https://ogs.ny.gov/acpl.

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 (2) business days after the day of the Bid opening, and 2.) within three (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, a 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 submitted to Department as required in Article 3. The applicable forms and instructions can be found in Section V – Consolidated Bid Form Acknowledgements, Article 1:

- Bid Forms and Acknowledgments (completed and endorsed)
    - Contractor must be registered with the New York State Department of Labor (NYSDOL) in accordance with Labor Law § 220-i, and must submit a copy of their certificate of registration.

- Bidder’s/Proposer’s Certification

- Bid Bond or Certified Check

- Offerer Disclosure of Prior Non-Responsibility Determinations (completed and endorsed)

- Vendor Assurance of No Conflict of Interest or Detrimental Effect (endorsed)

- Sexual Harassment Prevention Certification Form

- Certification Under Executive Order No. 16 Prohibiting State Agencies and Authorities from Contracting with Businesses Conducting Business in Russia

- Gender-Based Violence and the Workplace Certification Form

- In the case of a legally constituted joint venture, the bidders must submit a copy of the written joint venture agreement with their bid. Each member can only be part of one (1) joint venture. The agreement shall clearly define the relationship and services to be performed by each member, identify the authorized representative for each member, designate the lead principal participant, provide proof of insurance, identify percent equity share held by each member, and include any other relevant information.

    - The Bidder must also submit a statement signed by the Bidder's authorized representative acknowledging that such entities will be required to provide evidence of joint and several liability for the Bidder's obligations under the Contract. If the entity is an LLC, a statement signed by the bidder's authorized representative acknowledging that such entities will be required to provide guarantees of the Bidder's obligations under the Contract.

    - If the joint venture has not yet been legally formed, then the Bidder must submit a description of the proposed legal structure and draft copies of the underlying documents, including: a) all significant terms of the joint venture or partnership, including the rules relative to the administration of the joint venture, limited liability company or partnership, including dealing with deadlock situations; b) description of how the joint venture, limited liability company or partnership will operate administratively and technically; and c) a teaming agreement or comparable document setting forth the equity member's agreement to form the organization.

b) The following items shall be submitted to the Project Manager within five (5) days of notification that the Bidder is the apparent low Bidder. The applicable forms and instructions can be found in Section V – Consolidated Bid Form Acknowledgements, Article 2:

- 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 a duly authorized surety company licensed to do business in the State of New York

- A description of projects completed by Bidder documenting its experience in this type of work, including previous experience (including applicable experience in New York State and evaluations from other clients for whom the bidder has provided goods and/or services); the abilities and experience of the personnel to be assigned to the work and the ability to provide any needed advanced techniques such as modeling; and overall, information which demonstrates the bidder's skill, judgment and business integrity. This should include the Bidder's approach proposed in meeting the requirements of the scope of work and the need to purchase the goods from and/or subcontract performance of services to others, outlining any cost or schedule impacts to the Bidder's overall performance of the Work.

- Completed NYS Vendor Responsibility Questionnaire (CCA-2) or an affidavit of no change (if appropriate). If the forms are filed using OSC's online VendRep System, a letter certifying that the forms have been so completed and submitted must be sent to the Project Manager. In the case of a joint venture, each member will be required to complete and submit a NYS Vendor Responsibility Questionnaire or an affidavit of no change (if appropriate). (Must be bound separately if submitting a paper copy of the Vendor Responsibility Questionnaire.)

- 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 to the Project Manager within 14 days from the date of the Notice of Intent to Award letter from Department. The applicable forms and instructions can be found in Section V – Consolidated Bid Form Acknowledgements, Article 3:

- Executed Agreement one (1) endorsed originals)

- Performance Bond with Power of Attorney & Surety Financial Statement one (1)original

- Labor & Materials Bond with Power of Attorney & Surety Financial Statement (original)

- Bid Breakdown of Items (original) (see Article 12 below)

- Certificates of Insurance

- Service-Disabled Veteran-Owned Business (SDVOB) Utilization Plan (original) as detailed in Appendix D

- Consultant/Contractor Detailed MWBE Utilization Plan via the New York State Contract System (NYSCS) at https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp (see Article 20 below).

- DEC Equal Employment Opportunity (EEO) Policy Statement

- EEO Staffing Plan Form

- An Authorizing Resolution stating that a certain individual has the authority to sign the Contract on behalf of the firm.

- Endorsed Executive Order No. 177 Certification (Anti-Discriminatory Policies and Practices)

ARTICLE 6 - Bid Security and Bonds

Bid Security shall be made payable to Department in an amount not less than five (5) 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 Department or 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 NYS Vendor Responsibility Questionnaire, instructions for which are included in Section V, "Bid Forms and Attachments" must be completed and submitted by the apparent low Bidder within five (5) days after the apparent low Bidder has been so notified.

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 at or over $10,000, unless otherwise agreed to by the Department, the proposed subcontractor must submit the complete, properly executed "NYS Vendor Responsibility 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.

In the case of a joint venture, each member must meet the experience requirements as amended above. A bid cannot be submitted by a Bidder, including a joint venture, where the Bidder or one of the members of a joint venture has less than three (3) years satisfactory experience in construction of the work to be performed, unless the Bidder or member of a joint venture is a

successor in interest to a pre-existing company which meets the required minimum of three (3) years satisfactory experience in construction of the work to be performed.

All on-site personnel are required to have 40-hour Occupational Safety and Health Administration (OSHA) training plus a current eight-hour refresher, baseline medical monitoring, plus a current yearly physical, and training and current fit testing for respirator use if applicable.

Additionally, the successful Contractor must be compliant with Section X – Standard Specifications, SPEC 01 35 29 – Minimum Requirements for Health and Safety and the OSHA Standards and Regulations contained in Title 29, Code of Federal Regulations, Part 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 Occupational Safety and Health (NIOSH) regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.

ARTICLE 11 - Preliminary Progress Schedule

The Preliminary Progress Schedule shall consist of three (3) copies of a narrative description and a time-scaled critical path method diagram or bar chart diagram as specified in Section X – Standard Specifications, SPEC 01 32 16 – Progress Schedule. 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 8.10 of Section VIII 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 or as being in the best interest of Department.

ARTICLE 16 - Subcontractors, Suppliers or Others

Unless otherwise agreed in writing by Department, Contractor shall subcontract no more than Forty (40) percentage (%) of the total cost of the work under its contract as may be provided by the Contract Documents in Article 6 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 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. This experience must include, but not be limited to, the excavation, transportations, and handling of hazardous waste and contaminated soil/sediment. Experience must also include the handling and treatment of contaminated water generated from hazardous waste operations. For work to be deemed satisfactory, the work must have been performed with required oversight from United States

Environmental Protection Agency (USEPA), Department, or an equivalent state environmental regulatory agency (i.e., New Jersey DEP, Pennsylvania DER, etc). Brownfield cleanup work qualifies for the experience requirement. The bidder cannot meet the minimum experience requirements through the use of subcontractor(s).

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 of this Section. 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 - MWBE and EEO Requirements

The MWBE 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."

The selected Bidder shall be required to make good-faith efforts to subcontract at least thirty (30) percentage (%) stipulated in Section XIX of Appendix B, of the contract price to NYS

Certified Minority Business Enterprise(s) (MBE) and Women Business Enterprise(s) (WBE), respectively.

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 https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp. 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 (855) ESD-4MWBE or (855) 373-4692. For additional information and assistance regarding NYS Certified MWBE's, please contact the Department's MWBE Compliance Unit at mwbe@dec.ny.gov or (518) 402-9240.

Pursuant to New York State Executive Law Article 15-A, and the attending rules and regulations, an approvable MWBE Utilization Plan, DEC Equal Employment Opportunity Policy Statement and EEO Staffing Plan form shall be required prior to or at the time of the execution of 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 the work force hours required for the completion of the project. 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 Section XIX of Appendix B 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 – Participation Requirements for New York State Certified Service- Disabled Veteran-Owned Businesses

Article 3 of the New York State Veterans' Services Law provides for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses

(SDVOBs), thereby further integrating such businesses into New York State's economy. The Department recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of Department contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Bidders are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as subcontractors or suppliers, as protégés, or in other partnering or supporting roles. To obtain more information regarding the utilization of SDVOBs including how to find and contact them, please use the contact information below or go to the Division of Service Disabled Veteran's Business Development (DSDVBD) website at: https://ogs.ny.gov/veterans.

The contractor must make good faith efforts to subcontract a goal of six (6) percent (%) of the contract amount to New York State Certified Service-Disabled Veteran-Owned Businesses (SDVOBs), for purposes of providing meaningful participation by SDVOBs. Appendix D further defines the SDVOB provisions required by Veterans' Services Law Article 3

ARTICLE 22 - 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 offerer(s)[1] 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 period[2] 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 public 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 offerer(s);
- 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: https://ogs.ny.gov/acpl, 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.

ARTICLE 23 – Diesel Emissions Reduction Act 2006

In 2007, New York State passed legislation establishing the Diesel Emissions Reduction Act 2006 (DERA). This Act amended the Environmental Conservation Law (ECL) by adding Section 19-0323 which requires the use of best available retrofit technology (BART) and ultra-low sulfur diesel fuel (ULSD) for heavy duty vehicles owned or operated by, including on behalf of, state agencies and state or regional public authorities. The Department has promulgated regulations (6 NYCRR Part 248) to provide guidance on provisions of the law. The regulations may be found on the Department's website at http://www.dec.ny.gov/regs/2492.html.

The Contractor must comply with the specifications and provisions of ECL Section 19-0323 and 6 NYCRR Part 248, which require the use of Best Available Retrofit Technology (BART) and Ultra Low Sulfur Diesel (ULSD), unless specifically waived by the Department. Qualifications for a waiver under this law will be the responsibility of the Contractor.

ARTICLE 24 – Environmental Protection Fund Acknowledgment

If applicable, in recognition of a portion of the Department funds utilized for any work completed under this Contract, the Contractor agrees to acknowledge in any communication to the public, that such funding was provided from the Environmental Protection Fund as administered by the New York State Department of Environmental Conservation.

ARTICLE 25 – Sexual Harassment Prevention Certification

State Finance Law §139-l requires bidders on state procurements to certify that they have a written policy addressing sexual harassment prevention in the workplace and provide annual sexual harassment training (that meets the minimum requirements of section two hundred one-g of the NYS Labor Law and Department of Labor's model policy and training standards) to all its employees.

Where competitive bidding is required pursuant to statute, rule or regulation, every bid made to the state or any public department or agency of the state must contain the following statement:

"By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law."

Bids that do not contain the certification will not be considered for award; provided however, that if the bidder cannot make the certification, the bidder shall provide a signed statement with their bid detailing the reasons why the certification cannot be made. After review and consideration of such statement, the Department may reject the bid or may decide that there are sufficient reasons to accept the bid without such certification.

Bidders are required to sign and submit the Sexual Harassment Prevention Certification form. If the bidder cannot make the certification then a signed statement must be submitted with the bid detailing the reasons why the certification cannot be made.

ARTICLE 26 – Executive Order 177

Executive Order No. 177, Prohibiting State Contracts with Entities that Support Discrimination, orders that New York State's government will not do business with entities that promote or tolerate discrimination or infringement on the civil rights and liberties of New Yorkers. New York State is dedicated to ensuring that all individuals are treated equally, regardless of their age, race, creed, color, national origin, sexual orientation, gender identity, military status, sex, marital status, disability, or other protected basis. To that end, New York has enacted numerous laws, regulations, and policies, and will continue to aggressively enforce its strong protections against discrimination to the maximum extent allowable by law.

In order to comply with this order, the Contractor is required to complete the Executive Order No. 177 Certification which certifies that it does not have institutional policies or practices that fail to address the harassment and discrimination of individuals on the basis of their age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status under the Human Rights Law.

ARTICLE 27 - Executive Order No. 16

Executive Order No. 16 provides that "all Affected State Entities are directed to refrain from entering into any new contract or renewing any existing contract with an entity conducting business operations in Russia." The complete text of Executive Order No. 16 can be found at https://www.governor.ny.gov/executive-order/no-16-prohibiting-state-agencies-and-authorities-contracting-businesses-conducting. The Executive Order remains in effect while sanctions against Russia imposed by the federal government are in effect. Accordingly, vendors who may be excluded from award because of current business operations in Russia are nevertheless encouraged to respond to solicitations to preserve their contracting opportunities in case the sanctions are lifted during a solicitation or even after award in the case of some solicitations. As defined in Executive Order No. 16, an "entity conducting business operations in Russia" means

an institution or company, wherever located, conducting any commercial activity in Russia or transacting business with the Russian Government or with commercial entities headquartered in Russia or with their principal place of business in Russia in the form of contracting, sales, purchasing, investment, or any business partnership. Vendors responding to this solicitation are required to complete and submit the form entitled “Certification Under Executive Order No. 16 Prohibiting State Agencies and Authorities from Contracting with Businesses Conducting Business in Russia”.

ARTICLE 28 – Gender-Based Violence and the Workplace Certification

State Finance Law §139-m requires bidders on state procurements to certify that they have a written policy addressing gender-based violence and the workplace and have provided such policy to all of its employees, directors and board members. Such policy shall, at a minimum, meet the requirements of subdivision 11 of section five hundred seventy-five of the executive law.

Where competitive bidding is required pursuant to statute, rule or regulation, for work or services performed or to be performed or goods sold or to be sold, every bid made to the state or any public department or agency of the state must contain the following statement:

“By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing gender-based violence and the workplace and has provided such policy to all of its employees, directors and board members. Such policy shall, at a minimum, meet the requirements of subdivision 11 of section five hundred seventy-five of the executive law.”

Bids that do not contain the certification will not be considered for award; provided however, that if the bidder cannot make the certification, the bidder shall provide a signed statement with their bid detailing the reasons why the certification cannot be made. After review and consideration of such statement, the Department may reject the bid or may decide that there are sufficient reasons to accept the bid without such certification.

Bidders are required to sign and submit the Gender-Based Violence and the Workplace Certification form. If the bidder cannot make the certification then a signed statement must be submitted with the bid detailing the reasons why the certification cannot be made.

SECTION IV

Supplementary Bidding Information and Requirements

ARTICLE 1 - Location and Description of Project

The Site Number of this project is Site Number 633015. The Project is located at along Incinerator Road in Oneida County. Access to the site is East of Leland Ave. along Incinerator Road, Utica New York.

The project includes the closure of the former Utica City Dump by implementing an evapotranspiration (ET) cover system utilizing dredged sediment from the New York State Canal Corporation (NYSCC) Upland Disposal Site (UDS) 4-26 to prevent exposure to surface soils and to reduce the generation of leachate.

The Site is defined in New York State Department of Environmental Conservation's (NYSDEC) Record of Decision (ROD) as the portion of the dump that reportedly received hazardous waste and is approximately 74 acres in size. The NYSDEC, in consultation with Ramboll Americas Engineering Solutions, Inc. (Ramboll), developed an Explanation of Significant Differences (ESD) to include the closure of the entire dump site that is approximately 126 acres.

Based on public tax maps, of the 126-acre dump site, approximately 113.4-acres of the dump is owned by the City of Utica (City) and a 12.6-acre is privately owned. The Site is located east of Leland Ave. along Incinerator Road, between the Erie Canal to the north and the Mohawk River to the east and south. The total amount of land bordered by the road and the two water bodies is about 200 acres.

The area was operated as an open landfill from 1930 through the 1970s. The City operated a trash incinerator at the landfill between 1930 and 1960. Municipal waste continued to be dumped at the Site until 1972. From 1972 to 1997, construction and demolition (C&D) debris and arson materials were landfilled at the site in areas specified as the "Hardfill Area" and "Arson Area," respectively.

The NYSDEC issued the ROD in August 2003. In this document, the NYSDEC selected the following remedy for the Site:

- Landfill closure (74 acres east of the Hardfill Area) according to the 1999 NYS Part 360 Regulations, to prevent exposure to surface soils and to reduce the generation of landfill leachate
- Selected waste excavation with placement under the cap, to limit potential exposure to waste
- Demolition and disposal of the onsite incinerator and surrounding structure(s) in order to construct the cover
- Fencing to prevent trespassing

- Sediment removal (with replacement of clean fill) along the eastern banks of the landfill, to prevent the exposure of fish and wildlife to levels of PCBs above standards/guidance values
- Monitoring to confirm the effectiveness of the remedial actions

Based on the review of available data, results of additional sampling, and in consultation with the NYSDEC, an ESD was developed. In this document, the proposed remedy for the Site includes the following:

- Dump closure (103 acres East from Leland Ave) implementing an evapotranspiration (ET) cover system utilizing dredged materials from the New York State Canal Corporation (NYSCC) Upland Disposal Site (UDS) 4-26 to prevent exposure to surface soils and to reduce the generation of leachate
- Selected waste excavation with placement under the ET cover to limit potential exposure to waste
- Demolition and disposal of the onsite incinerator stack and surrounding structure(s) in order to construct the cover
- Fencing to prevent trespassing
- Monitoring to confirm the effectiveness of the remedial actions

ARTICLE 2 - Department Representatives

Project Manager – Brianna Scharf, PE, Project Manager, NYSDEC Division of Environmental Remediation, 625 Broadway, 12th Floor, Albany New York 12233-7017, brianna.scharf@dec.ny.gov

Section Chief – Benjamin Rung, PE, Section Chief, NYSDEC Division of Environmental Remediation, 625 Broadway, 12th Floor, Albany New York 12233-7017, benjamin.rung@dec.ny.gov

Designated Representative – Andrew Guglielmi, Division Director, NYSDEC Division of Environmental Remediation, 625 Broadway, 12th Floor, Albany New York 12233-7017, andrew.guglielmi@dec.ny.gov

Engineer - Ramboll Americas Engineering Solutions

ARTICLE 3 - Pre-Bid Conference

A Pre-Bid Conference will be held on Tuesday, March 24, 2026, at the at the Former Utica City Dump located at the parking area along Incinerator Road, Utica, NY, starting at 10:00 AM Eastern Standard Time 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, 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 the Pre-Bid Conference, attendance is mandatory as a condition of Bid.**

ARTICLE 4 - Additional Bid Submittals

Experience in performance of the Scope of Work (SOW) and in accordance with Section III, Article 17, Paragraph 4, shall be demonstrated in writing and presented to the Department within five (5) days of Department's Notice of Apparent Low Bid per Section III, Article 5, (b).

Section III – Article 17 outlines the requirements for contractor experience in performance of the Scope of Work (SOW). For this contract, that experience shall be modified as follows:

The Bidder must have a minimum of three (3) years satisfactory experience in construction of the work to be performed. This experience must include the construction of landfill cap systems, including the completion of significant earth work projects. Experience must also include the excavation, dewatering and transportation of dredge materials to be used as the dump cap system. For work to be deemed satisfactory, the work must have been performed with required oversight from a certified state, local or other municipal entity directing the work. The bidder cannot meet the minimum experience requirements through the use of subcontractor(s). The construction of the proposed wetlands can be performed by a sub-contractor. The demolition of the incinerator stack and abandon pump house shall be performed under the assumption that all materials contain asbestos and shall be disposed of off-site in accordance with all applicable Laws and Regulations. All demolition shall be performed in accordance with the contract specifications. The Letter of Condemnation from the City of Utica and City of Utica Demolition permit are provided on DECinfolocator (https://extapps.dec.ny.gov/data/DecDocs/633015/).

ARTICLE 5 - Other Available Documents

The following items are available on DECinfo Locator (https://extapps.dec.ny.gov/data/DecDocs/633015/):

- Final Basis of Design Report, Former Utica City Dump, Ramboll, (February 2025)
- This Explanation of Significant Difference (ESD), (April 19, 2025)
- NYSDEC Record of Decision, Utica City Dump (Site N0. 633015), August 2003
- Remedial Investigation/Feasibility, Utica City Dump, Lawler, Matusky & Skelly Engineers LLP and Clough, Harbour & Associates LLP, 1999

ARTICLE 6 - Subcontracting

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

ARTICLE 7 - Type of Schedule

Contractor shall provide a Critical Path Method (CPM) type of schedule as described in Section X – Standard Specifications, SPEC 01 32 16 – Progress Schedule.

ARTICLE 8 - 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 – Wage Rates and Associated Contract Requirements.

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 30th. 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 (3) 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.

ARTICLE 9 – Bid Protest Guidelines

The intent and purpose of these guidelines is to set forth the procedure to be utilized when an
interested party challenges a contract bid award solicited by the Division of Environmental Remediation and routed to the Office of the State Comptroller (OSC) for approval pursuant to the provisions of Section 112 of the State Finance Law.

The protestor is responsible for complying with the restrictions on “contacts” under the Procurement Lobbying Law (State Finance Law, Section 139-j). All protests must be submitted to the Designated Department Contact listed in the Contract Documents.

1. The bid protest must be submitted within ten (10) Business days of the Department's Notification of Intent to Award letter being sent to the apparent low bidder.

2. The bid protest must be submitted in writing and must contain specific factual and/or legal allegations setting forth the basis on which the protesting party challenges the contract award. The notice of protest must be filed by the signatory of the bid or by an attorney representing the bidder. Any filing deadlines may be waived by the Department at its own discretion.

3. The Designated Department Contact will promptly submit the notice of protest, a bid protest summary and relevant bid documents to the Division of Management and Budget Services and the Office of General Counsel (OGC).

4. Once the formal notice of protest is filed, the Department, at its sole discretion, may continue or suspend the contract award process until the protest is resolved and a final Department determination is made.

5. As set forth in Section III, Article 17, of the Contract Documents, the 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."

SECTION V

Bid Forms and Acknowledgements

ARTICLE 1(a) - Contract Bid Form and Acknowledgment for CONSOLIDATION AND ET COVER, FORMER UTICA CITY DUMP site.

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 appurtenances, 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 Section III - Bidding Information and Requirements, Article 5 - Required Bid Submittals.

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

Attention:	
Company Name:	
Street Address:	
City, State, Zip (+4):	
Email Address:	
Phone Number:	
NYSDOL Registration #	

Note: Bidders *must* attach a copy of their NYSDOL certificate of registration to this bid.

BID
New York State Department of Environmental Conservation

FORMER UTICA CITY DUMP
CONSOLIDATION & ET COVER
Site Number: 633015
CITY OF UTICA, ONEIDA COUNTY

Payment Item Number	*Description*	*Unit*	*Estimated Quantity*	*Unit or Lump Sum Price*		*Total Amount ($)*
				Words	*Figures*	
LS-1	**Mobilization and Demobilization**	Lump Sum	1			
LS-2	**Surveying**	Lump Sum	1			
LS-3	**Access Roads – Improvements/Maintenance and Creation**	Lump Sum	1			
LS-4	**Demolition of Incinerator Stack and Associated Subgrade Structures**	Lump Sum	1			
LS-5	**Construction Water Management**	Lump Sum	1			
LS-6	**Clearing and Grubbing**	Lump Sum	1			
LS-7	**Drainage Swales and Discharge System**	Lump Sum	1			
LS-8	**Loading / Unloading Platforms**	Lump Sum	1			
UP-1	**Site Services**	Calendar Day	580			
UP-2	**Health and Safety**	Calendar Day	610			
UP-3	**Waste Relocation**	Cubic Yard	287,500			
UP-4	**Canal Corp Dredge Material Handling**	Cubic Yard	432,500			
UP-5	**Grading Outside Limits of the ET Cover to Wetlands**	Cubic Yard	96,000			
UP-6	**Evapotranspiration Cover (ET Cover)**	Cubic Yard	336,000			
UP-7	**Wetland Construction**	Square Feet	776,150			
UP-8	**Restoration of Perimeter Slopes**	Square Feet	272,500			

Payment Item Number	*Description*	*Unit*	*Estimated Quantity*	*Unit or Lump Sum Price*		*Total Amount ($)*
				Words	*Figures*	
UP-9	**Waste Tires**	Tons	10			
UP-10	**Demolition Debris Asbestos Containing Materials – Transport and Disposal**	Tons	200			
UP-11	**Winter Shutdown**	Calendar Day	132			

GRAND TOTAL BID: $ _____
(Price in figures)

_____

Contractor Authorized Representative ***Contractor Name*** ***Date***

The undersigned acknowledges the receipt of the following Addenda and agrees to be bound by all Addenda issued by Department 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(s) totaling $_____, and/or Bid Bond totaling $_____ which shall become the property of the Department if this proposal shall be accepted by the Department, or, should the undersigned 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 and Title

_____
Signature Date

Please Complete Information Requested Below (as applicable):

The P.O. Box Address of the Bidder is: _____

Federal Identification Number is: _____

(**ACKNOWLEDGMENT)**

State of)
s.s.:
County of)

On the ___ day of _____ in the year _____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(Seal) _____
Notary Public

ARTICLE 1(b) Bidder's/Proposer's Certification

Non-Collusive Bidding and Nondiscrimination in Employment in Northern Ireland MacBride Fair Employment Principles and State Ethics Law Principles and Procurement Lobbying Law

BY SUBMISSION OF THIS BID/PROPOSAL, 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:

A. ***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.

B. ***MacBride Fair Employment Principles, State Finance Law §165(5)***

1) it or any individual or legal entity in which the Bidder/Proposer holds a ten-percent (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.

Yes ☐ or No ☐ (check answer)

C. ***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)

(Bidder/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 Joint Commission on Public Ethics, 540 Broadway, Albany, NY 12207 or by phone (518) 408-3976.

D. *Procurement Lobbying Affirmation*

The Undersigned 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).

_____

Print Name, Title

_____

Signature, Date

ARTICLE 1(c) – Bid Security (Page to Attach)

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

ARTICLE 1(d) - Bid Bond

Know all persons 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 Former City of Utica Dump, Consolidation & ET Cover, Contract No. D013645, Site No. 633015

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.

Corporate Seal(s) – Principal & Surety
(If no seal, write "No Seal" and sign)

By _____
Principal (Print Name and Title)

_____
Principal (Signature and Date)

By _____
Surety (Print Name and Title)

_____
Surety (Signature and Date)

- ACKNOWLEDGMENT BY SURETY COMPANY -

State of)
s.s.:
County of)

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 _____ *(city, state)*, that he/she is the _____ *(title)* of _____ *(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 that he/she signed his/her 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

- ACKNOWLEDGMENT BY PRINCIPAL -

State of)
s.s.:
County of)

On the _____ day of _____, 20___, before me, the undersigned notary public, personally appeared _____, known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose names(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(Seal)

_____
Notary Public

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

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

Name: _____

Address: _____

Name and Title of Person Submitting this Form:

Name: _____

Title: _____

Contract Procurement Number: D013645

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?

   Yes ☐ No ☐ (If yes, answer 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?

   Yes ☐ No ☐

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

   Yes ☐ No ☐

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: Provide details under separate cover, endorse, date and provide marked as Supplement to Article 1(e).

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

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?

   Yes ☐ No ☐ (If yes, provide details below.)

Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding: Provide details under separate cover, endorse, date and provide marked as Supplement to Article 1(e).

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.

Signature: _____

Date: _____

Name: _____

Title: _____

This form must be signed by an authorized executive or legal representative and returned with the bid/proposal.

ARTICLE 1(f) – Vendor Assurance of No Conflict of Interest or Detrimental Effect
(Page 1 of 2)

The Firm offering to provide services pursuant to this Procurement/Contract, as a contractor, joint venture contractor, subcontractor, or consultant, attests that its performance of the services outlined in this Procurement/Contract does not and will not create a conflict of interest with nor position the Firm to breach any other contract currently in force with the State of New York.

Furthermore, the Firm attests that it will not act in any manner that is detrimental to any State project on which the Firm is rendering services. Specifically, the Firm attests that:

1. The fulfillment of obligations by the Firm, as proposed in the response, does not violate any existing contracts or agreements between the Firm and the State;

2. The fulfillment of obligations by the Firm, as proposed in the response, does not and will not create any conflict of interest, or perception thereof, with any current role or responsibility that the Firm has with regard to any existing contracts or agreements between the Firm and the State;

3. The fulfillment of obligations by the Firm, as proposed in the response, does not and will not compromise the Firm's ability to carry out its obligations under any existing contracts between the Firm and the State;

4. The fulfillment of any other contractual obligations that the Firm has with the State will not affect or influence its ability to perform under any contract with the State resulting from this Procurement;

5. During the negotiation and execution of any contract resulting from this Procurement, the Firm will not knowingly take any action or make any decision which creates a potential for conflict of interest or might cause a detrimental impact to the State as a whole including, but not limited to, any action or decision to divert resources from one State project to another;

6. In fulfilling obligations under each of its State contracts, including any contract which results from this Procurement, the Firm will act in accordance with the terms of each of its State contracts and will not knowingly take any action or make any decision which might cause a detrimental impact to the State as a whole including, but not limited to, any action or decision to divert resources from one State project to another;

7. No former officer or employee of the State who is now employed by the Firm, nor any former officer or employee of the Firm who is now employed by the State, has played a role with regard to the administration of this contract procurement in a manner that may violate section 73(8)(a) of the State Ethics Law; and

ARTICLE 1(f) – Vendor Assurance of No Conflict of Interest or Detrimental Effect
(Page 2 of 2)

8. The Firm has not and shall not offer to any employee, member or director of the State any gift, whether in the form of money, service, loan, travel, entertainment, hospitality, thing or promise, or in any other form, under circumstances in which it could reasonably be inferred that the gift was intended to influence said employee, member or director, or could reasonably be expected to influence said employee, member or director, in the performance of the official duty of said employee, member or director or was intended as a reward for any official action on the part of said employee, member or director.

Firms responding to this Procurement/Contract should note that the State recognizes that conflicts may occur in the future because a Firm may have existing or new relationships.

The State will review the nature of any such new relationship and reserves the right to terminate the contract for cause if, in its judgment, a real or potential conflict of interest cannot be cured.

Signature: _____

Date: _____

Name: _____

Title: _____

This form must be signed by an authorized executive or legal representative and returned with the bid/proposal.

ARTICLE 1(g) - Sexual Harassment Prevention Certification Form

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

Company Name:_____

Signature:_____

Print Name and Title:_____

Date:_____

If the above certification cannot be made, the bidder must submit a signed statement below detailing the reasons why the certification cannot be made.

_____
_____
_____
_____
_____

Company Name:_____

Signature:_____

Print Name and Title:_____

Date:_____

ARTICLE 1(h) - Certification Under Executive Order No. 16 Prohibiting State Agencies and Authorities from Contracting with Businesses Conducting Business in Russia

Executive Order No. 16 provides that "all Affected State Entities are directed to refrain from entering into any new contract or renewing any existing contract with an entity conducting business operations in Russia." The complete text of Executive Order No. 16 can be found here.

The Executive Order remains in effect while sanctions imposed by the federal government are in effect. Accordingly, vendors who may be excluded from award because of current business operations in Russia are nevertheless encouraged to respond to solicitations to preserve their contracting opportunities in case the sanctions are lifted during a solicitation or even after award in the case of some solicitations.

As defined in Executive Order No. 16, an "entity conducting business operations in Russia" means an institution or company, wherever located, conducting any commercial activity in Russia or transacting business with the Russian Government or with commercial entities headquartered in Russia or with their principal place of business in Russia in the form of contracting, sales, purchasing, investment, or any business partnership.

Is Vendor an entity conducting business operations in Russia, as defined above? Please answer by checking one of the following boxes:

□ 1. No, Vendor does not conduct business operations in Russia within the meaning of Executive Order No. 16.

□ 2.a. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16 but has taken steps to wind down business operations in Russia or is in the process of winding down business operations in Russia. (Please provide a detailed description of the wind down process and a schedule for completion.)

□ 2.b. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16 but only to the extent necessary to provide vital health and safety services within Russia or to comply with federal law, regulations, executive orders, or directives. (Please provide a detailed description of the services being provided or the relevant laws, regulations, etc.)

□ 3. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16.

The undersigned certifies under penalties of perjury that they are knowledgeable about the Vendor's business and operations and that the answer provided herein is true to the best of their knowledge and belief

Vendor Name (legal entity):_____

By (signature):_____

Name:_____ **Title**:_____

Date:_____

ARTICLE 1(i) – Gender-Based Violence and the Workplace Certification Form

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing gender-based violence and the workplace and has provided such policy to all of its employes, directors and board members. Such policy shall, at a minimum, meet the requirements of subdivision 11 of section five hundred seventy-five of the executive law.

Company Name:_____

Signature:_____

Print Name and Title:_____

Date:_____

If the above certification cannot be made, the bidder must submit a signed statement below detailing the reasons why the certification cannot be made.

_____
_____
_____
_____
_____

Company Name:_____

Signature:_____

Print Name and Title:_____

Date:_____

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

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

We have reviewed the Bid of:

_____ (Contractor)

Having its place of business at:

_____ (Address)

For the Project:

_____

Bids for which will be received on _____ (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, the undersigned, are duly licensed to do business in the State of New York.

Attest, and Attach Power of Attorney:

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

_____
Surety Name, Title

_____
Surety's Authorized Signature(s), Date

_____
Telephone Number and email address for Bonding Company

_____
Telephone Number and email address for Bonding Broker

Article 2 (b) - Instructions for Completing the New York State Vendor Responsibility Questionnaire CCA-2

- Please Read Before Completing Questionnaire -

Contractors must submit a Vendor Responsibility Questionnaire CCA-2 form 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. The Department may require additional information deemed necessary for its review.

Contractors are invited to file the required Vendor Responsibility Questionnaire online via the New York State VendRep System or may choose to complete and submit a paper questionnaire. To enroll in and use the New York State VendRep System, see the VendRep System Instructions available at: http://www.osc.state.ny.us/vendrep/systeminit.htm or go directly to the VendRep System online at https://portal.osc.state.ny.us. For direct VendRep System user assistance, the Office of the State Comptroller's Help Desk may be reached at 866-370-4672 or 518-408-4672 or by email at helpdesk@osc.state.ny.us. Contractors opting to file a paper questionnaire can obtain the appropriate questionnaire from the VendRep website www.osc.state.ny.us/vendrep or contact the Office of the State Comptroller's Help Desk.

The enrollment process in the VendRep System can take several days. Contractors are encouraged to enroll prior to submitting bids to ensure meeting the timeframes for certification.

Contractors electing to file the Vendor Responsibility Questionnaire online shall certify to the Department, via a letter, within the timeframe designated in the Instructions to Bidders, that the questionnaire has been updated. The Contractor will be able to supply any additional information requested by the Department, by updating the online questionnaire and notifying the Department via letter, that it has been recertified.

Throughout the contract term, the Contractor is required to notify the Department in writing of any changes in Contractor's vendor responsibility disclosure related to the Contractor commencing bankruptcy proceedings; filings against the Contractor for relief under bankruptcy; Contractor making general assessment for benefit of creditors; a Court appointing a party to take charge of the Contractor's property; Contractor's inability to pay debts; or the Contractor being found in violation of laws and regulations of any public body having jurisdiction.

If the Contractor elects to file a paper copy directly with the Department, a completed original CCA-2 Form must be submitted within the timeframe designated in the Instructions to Bidders. Submit completed questionnaires marked "**CONFIDENTIAL**" to:

NYS Department of Environmental Conservation
Division of Environmental Remediation
Brianna Scharf, Project Manager
625 Broadway, 12th Floor
Albany, New York 12233-7017

ARTICLE 3(a) - Instructions for Insurance

Please refer to Contract Documents Section VIII, Article 4, and any Addenda if applicable, for the types and amounts of insurance required for this contract, as well as the necessary forms and endorsement requirements.

Bidders should:

1. Request that your insurance provider note the Department's specific contract number D013645 in the Description of Operations box on the ACORD form.

2. List the following address on the Workers' Compensation and Disability Benefits Certificates as Entity Requesting Proof of Coverage and on the ACORD forms and endorsements as the Certificate Holder:

   State of New York and the NYS Department of Environmental Conservation
   Division of Environmental Remediation, Remedial Bureau E
   Brianna Scharf, Project Manager
   625 Broadway, 12th Floor
   Albany, NY 12233-7017

3. Submit all required insurance certificates and applicable endorsements to the following address:

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

ARTICLE 3(b) - 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)

4) Performance Bond and Labor and Materials Payment Bond must be secured by the surety and notarized within three (3) days of the date the Contractor signs the agreement.

ARTICLE 3(c) - Performance Bond (page 1 of 3)

Date Bond Executed: _____

NYSDEC-DER Site Number: _____

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 Numbers)

Know all persons by these presents, that we, the **Principal** and **Surety**, above named, are held and firmly bound unto the New York State 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.

ARTICLE 3(c) - Performance Bond (page 2 of 3)

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 authorized officers 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:

Principal Organization

Corporate Seal of Principal (if a Corporation)

By

Print Name, Title

Signature, Date

Surety

Business Address

By

Print Name, Title

Corporate Seal of Surety Company

Signature, Date

Attest

Print Name, Title

Signature, Date

ARTICLE 3(c) - Performance Bond (page 3 of 3)

- ACKNOWLEDGMENT BY SURETY COMPANY -

State of)
s.s.:
County of)

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 _____ *(city, state)*, that he/she is the _____ *(title)* of _____ *(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 that he/she signed his/her 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

- ACKNOWLEDGMENT BY PRINCIPAL -

State of)
s.s.:
County of)

On the _____ day of _____, 20___, before me, the undersigned notary public, personally appeared _____, known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose names(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(Seal)

_____
Notary Public

ARTICLE 3(d) - Labor and Material Payment Bond (page 1 of 3)

Date Bond Executed: _____

NYSDEC-DER Site Number: _____

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 Numbers)

Know all persons 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

ARTICLE 3(d) - Labor and Material Payment Bond (page 2 of 3)

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 authorized officers 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:

Corporate Seal of Principal (if a Corporation)

_____
Principal Organization

By _____
Print Name, Title

_____
Signature, Date

_____
Surety

_____
Business Address

By _____
Print Name, Title

_____
Signature, Date

Corporate Seal of Surety Company

Attest _____
Print Name, Title

_____
Signature, Date

ARTICLE 3(d) - Labor and Material Payment Bond (page 3 of 3)

- ACKNOWLEDGMENT BY SURETY COMPANY -

State of)
s.s.:
County of)

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 _____ *(city, state)*, that he/she is the _____ *(title)* of _____ *(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 that he/she signed his/her 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

- ACKNOWLEDGMENT BY PRINCIPAL -

State of)
s.s.:
County of)

On the _____ day of _____, 20___, before me, the undersigned notary public, personally appeared _____, known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose names(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(Seal)

_____
Notary Public

ARTICLE 3(e) – SDVOB Utilization Plan

Contractor must submit a Service-Disabled Veteran-Owned Business (SDVOB) Utilization Plan after being issued a Notice of Intent to Award in accordance with Section III, Article 5(c). Quarterly reporting is required throughout the term of the contract.

For additional information regarding the SDVOB Utilization Plan and quarterly reporting including information on how to obtain the forms, the contractor should contact the Department's SDVOB lead at:

SDVOB Program Lead
Bureau of Contract and Grant Development
New York State Department of Environmental Conservation
625 Broadway, 10th Floor
Albany, NY 12233-1080

Phone: 518-402-9240
Email: sdvob@dec.ny.gov

New York State Office of General Services (OGS) oversees the NYS SDVOB program. For information regarding the SDVOB program including Events, forms, and the online search directory please visit:
https://ogs.ny.gov/veterans

SDVOB UTILIZATION PLAN

Initial Plan ☐ Revised plan ☐ Contract/Solicitation # _____

INSTRUCTIONS: This Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each NYS **Certified** Service-Disabled Veteran-Owned Business (SDVOB) under the contract. By submission of this Plan, the Bidder/Contractor commits to making good faith efforts in the utilization of SDVOB subcontractors and suppliers as required by the SDVOB goals contained in the Solicitation/Contract. Making false representations or providing information that shows a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Firms that do not perform commercially useful functions may not be counted toward SDVOB utilization. Attach additional sheets if necessary.

BIDDER/CONTRACTOR INFORMATION

Bidder/Contractor Name:	NYS Vendor ID:	**SDVOB Goals In Contract**
Bidder/Contractor Address (Street, City, State and Zip Code):		%
Bidder/Contractor Telephone Number:	Contract Work Location/Region:	
Contract Description/Title:		

CONTRACTOR INFORMATION

Prepared by (Signature):	Name and Title of Preparer:	Telephone Number:	Date:
Email Address:			

If unable to meet the SDVOB goals set forth in the solicitation/contract, bidder/contractor must submit a request for waiver on the SDVOB Waiver Form.

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____%		

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $ _____ or _____%		

FOR DEC USE ONLY

DEC Authorized Signature:		**Accepted** ☐	**Accepted as Noted** ☐	**Notice of Deficiency** ☐
NAME (Please Print):	**SDVOB %/$** ____	____	**Date Received:**	**Date Processed:**
Comments:				

NYS CERTIFIED SDVOB SUBCONTRACTOR/SUPPLIER INFORMATION: The directory of New York State Certified SDVOBs can be viewed at: https://online.ogs.ny.gov/SDVOB/search

Note: All listed Subcontractors/Suppliers will be contacted and verified by DEC.

ADDITIONAL SHEET

Bidder/Contractor Name:	**Contract/Solicitation #** _____

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____%		

Please document all good faith efforts to date and detail any ongoing good faith efforts below:

Article 3(f) - MWBE-EEO Utilization Plan and Work Force Utilization

Contractors must use the New York State Contract System (NYSCS) for all MWBE payment reporting. https://ny.newnycontracts.com/. Contractors must submit the MWBE Utilization Plan after being issued Notice of Intent to Award in accordance with Article 5c. of Section III. MWBE Utilization Plan must be submitted via the NYSCS. MWBE reporting is required throughout the term of the contract. The NYSCS will notify contractors when to log in to review and record the details for the Compliance Audits ("subcontractor payments"). Contractors will receive monthly MWBE compliance email notifications ("audit notices") directing them to log in to the NYSCS to report their subcontractor payments for the preceding month.

Contractors must complete and submit a DEC Equal Employment Opportunity Policy Statement.

Contractors must complete and submit an EEO Staffing Plan form.

Contractors and all subcontractors must submit a completed EEO Workforce Utilization Report on a quarterly basis via the NYSCS.

For more information regarding MWBE compliance and reporting guidelines, and to download required forms, please visit https://www.dec.ny.gov/about/61016.html#MWBE. For additional support, you may reach out to the MWBE Compliance Unit directly by contacting mwbe@dec.ny.gov

NYS Department of Environmental Conservation
Division of Management and Budget Services
DEC MWBE Compliance Unit

Mwbe@dec.ny.gov
625 Broadway, 10th Floor
Albany, New York 12233-5028
Phone: (518) 402-9240
Fax: (518) 402-9023

M/WBE Directory on the Internet

Empire State Development has put the Minority and Women-Owned Business Directory on the Internet. The Internet address is https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp . 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 (855)-ESD-4MWBE or (855)-373-4692.

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC)
MWBE & SDVOB EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

I,_____, the (awardee/vendor) agree to adopt the following policies with respect to contract #_____.

NON-DISCRIMINATION & EQUAL EMPLOYMENT OPPORTUNITY POLICY

a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its workforce on state contracts.

b) This organization shall state in all solicitations or advertisements for employees, that under the performance of this 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 and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.

c) At the request of the Empire State Development (ESD), this organization shall require each employment agency, labor union, or authorized representative 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 this organization's obligations herein.

d) The organization shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. The organization and its sub-vendors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status, or domestic violence victim status, and shall also follow the requirements of the Human Rights Law regarding non-discrimination based on prior criminal conviction and prior arrest.

e) The organization will include the provisions of sections (a) through (d) of this agreement in every subcontract in such a manner that the requirements of:

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

MWBE

This organization will and will cause its contractors and subcontractors to make good faith efforts to achieve the MWBE contract participation goals set by the state for that area in which the state-funded project is located, by taking the following steps:

1. Actively and affirmatively solicit bids for contracts and subcontracts from qualified state certified MBEs or WBEs, including solicitations to MWBE contractor associations.
2. Request a list of state certified MWBEs from the DEC and solicit bids from them directly.
3. Ensure that plans, specifications, request for proposals, and other documents used to secure bids will be made available in sufficient time for review by prospective MWBEs.
4. Where feasible, divide the work into smaller portions to enhanced participation by MWBEs.
5. Document and maintain records of bid solicitations, including those to MWBEs and the results thereof. Contractor will also maintain records of actions that its subcontractors have taken toward meeting MWBE contract participation goals.
6. Ensure that payments to MWBEs are made on a timely basis so that undue financial hardship is avoided.

SDVOB

This organization will and will cause its contractors and subcontractors to make good faith efforts to achieve the SDVOB contract participation goals set by the state for that area in which the State-funded project is located, by taking the following steps:

1. Actively and affirmatively solicit bids for contracts and subcontracts from qualified state certified SDVOBs, including solicitations to contractor associations.
2. Request a list of State-certified SDVOBs from the DEC and solicit bids from them directly
3. Ensure that plans, specifications, request for proposals and other documents used to secure bids will be made available in sufficient time for review by prospective SDVOBs.
4. Where feasible, divide the work into smaller portions to enhanced participations by SDVOBs.
5. Document and maintain records of bid solicitations, including those to SDVOBs and the results thereof. Contractor will also maintain records of actions that its subcontractors have taken toward meeting SDVOB contract participation goals.
6. Ensure that progress payments to SDVOBs are made on a timely basis so that undue financial hardship is avoided.

As an authorized representative of (Legal Name of Firm),_____,
I (Name of Individual) _____,agree that (Legal Name of Firm) _____ will abide by the above MWBE and SDVOB Equal Opportunity Policy Statement for the term of the contract.

Below for DEC use only.

NYS DEC Authorized Representative:_____ Title: _____
Date: _____

NEW YORK STATE OF OPPORTUNITY | Division of Minority and Women's Business Development

STAFFING PLAN

Please see instructions on page 2.

Contract Number: D013645	**Reporting Entity:**	**Report includes Contractor's/Subcontractor's:** □ Workforce to be utilized on this contract □ Total workforce
Contractor's Name:		□ Offeror □ Subcontractor **Subcontractor's name**_____
Contractor's Address:		

Enter the total number of employees for each classification in each of the EEO-Job Categories identified

EEO-Job Category	Total Workforce	Workforce by Gender			Workforce by Race/Ethnic Identification																					
		Total Male (M)	Total Female (F)	Total X (X)	White (M)	White (F)	White (X)	Black (M)	Black (F)	Black (X)	Hispanic (M)	Hispanic (F)	Hispanic (X)	Asian (M)	Asian (F)	Asian (X)	Native American (M)	Native American (F)	Native American (X)	Disabled (M)	Disabled (F)	Disabled (X)	Veteran (M)	Veteran (F)	Veteran (X)
Officials/Administrators																										
Professionals																										
Technicians																										
Sales Workers																										
Office/Clerical																										
Craft Workers																										
Laborers																										
Service Workers																										
Temporary /Apprentices																										
Totals																										

PREPARED BY (Signature):	**TELEPHONE NO.:** **EMAIL ADDRESS:**	**DATE:**
NAME AND TITLE OF PREPARER (Print or Type):	**Submit completed with bid or proposal**	**MWBE 101 (Rev 01/2023)**

General instructions: All Offerors and each subcontractor identified in the bid or proposal must complete an EEO Staffing Plan (MWBE 101) and submit it as part of the bid or proposal package. Where the workforce to be utilized in the performance of the State contract can be separated out from the contractor's and/or subcontractor's total workforce, the Offeror shall complete this form only for the anticipated workforce to be utilized on the State contract. Where the workforce to be utilized in the performance of the State contract cannot be separated out from the contractor's and/or subcontractor's total workforce, the Offeror shall complete this form for the contractor's and/or subcontractor's total workforce.

Instructions for completing:

1. Enter the Solicitation number that this report applies to along with the name and address of the Offeror.
2. Check off the appropriate box to indicate if the Offeror completing the report is the contractor or a subcontractor.
3. Check off the appropriate box to indicate workforce to be utilized on the contract or the Offerors' total workforce.
4. Enter the total workforce by EEO job category.
5. Break down the anticipated total workforce by gender and enter under the heading 'Workforce by Gender'
6. Break down the anticipated total workforce by race/ethnic identification and enter under the heading 'Workforce by Race/Ethnic Identification'. Contact the OMWBE Permissible contact(s) for the solicitation if you have any questions.
7. Enter information on disabled or veterans included in the anticipated workforce under the appropriate headings.
8. Enter the name, title, phone number and email address for the person completing the form. Sign and date the form in the designated boxes.

RACE/ETHNIC IDENTIFICATION

Race/ethnic designations as used by the Equal Employment Opportunity Commission do not denote scientific definitions of anthropological origins. For the purposes of this form, an employee may be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this survey are:

- **WHITE:** (Not of Hispanic origin) All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- **BLACK**: a person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
- **HISPANIC**: a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
- **ASIAN & PACIFIC ISLANDER:** a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
- **NATIVE INDIAN (NATIVE AMERICAN/ ALASKAN):** a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

OTHER CATEGORIES

- **DISABLED INDIVIDUAL**: any person who:
  - has a physical or mental impairment that substantially limits one or more major life activity(ies)
  - has a record of such an impairment; or
  - is regarded as having such an impairment.
- **VIETNAM ERA VETERAN**: a veteran who served at any time between and including January 1, 1963 and May 7, 1975.
- **GENDER:** Male, Female, or X

Article 3 (g) – Authorizing Resolution

The Contractor is required to submit an Authorizing Resolution stating that a certain individual has the authority to sign the Contract on behalf of the firm.

ARTICLE 3(h) – Executive Order No. 177 Certification

The New York State Human Rights Law, Article 15 of the Executive Law, prohibits discrimination and harassment based on age, race, creed, color, national origin, sex, pregnancy or pregnancy-related conditions, sexual orientation, gender identity, disability, marital status, familial status, domestic violence victim status, prior arrest or conviction record, military status or predisposing genetic characteristics.

The Human Rights Law may also require reasonable accommodation for persons with disabilities and pregnancy-related conditions. A reasonable accommodation is an adjustment to a job or work environment that enables a person with a disability to perform the essential functions of a job in a reasonable manner. The Human Rights Law may also require reasonable accommodation in employment on the basis of Sabbath observance or religious practices.

Generally, the Human Rights Law applies to:

- all employers of four or more people, employment agencies, labor organizations and apprenticeship training programs in all instances of discrimination or harassment;
- employers with fewer than four employees in all cases involving sexual harassment; and,
- any employer of domestic workers in cases involving sexual harassment or harassment based on gender, race, religion or national origin.

In accordance with Executive Order No. 177, the Bidder hereby certifies that it does not have institutional policies or practices that fail to address the harassment and discrimination of individuals on the basis of their age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status under the Human Rights Law. Executive Order No. 177 and this certification do not affect institutional policies or practices that are protected by existing law, including but not limited to the First Amendment of the United States Constitution, Article 1, Section 3 of the New York State Constitution, and Section 296(11) of the New York State Human Rights Law.

Contractor: _____

Signature: _____

Name: _____

Title: _____

Date: _____

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, _____ (Bidder name)

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

☐ a partnership, consisting of _____,

☐ an individual conducting business as _____,

hereinafter called “Contractor", the location of whose principal office is,

_____.

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
Division of Environmental Remediation
Site Name: Former Utica Dump
Contract No. D013645
Date: March 2026

ARTICLE 3 - Engineer

ENGINEER 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:

4.1 Appendices A, B, C & D
4.2 Engineer's written clarifications and interpretations
4.3 Change Orders
4.4 Administrative Agreements
4.5 Field Orders
4.6 Proposed Change Orders signed by Department
4.7 Approved Shop Drawings
4.8 Addenda
4.9 Agreement (including all Appendices)
4.10 Measurement for Payment
4.11 Bid Forms and Attachments Exclusive of Bonds and Insurance Certificates
4.12 Drawings, Plans
4.13 Supplementary Specifications
4.14 Supplementary Conditions
4.15 Standard Specifications
4.16 General Conditions
4.17 Supplementary Bidding Information and Requirements
4.18 Bidding Information and Requirements
4.19 Terms and Definitions
4.20 Advertisement
4.21 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.

5.7 General Responsibility: The Contractor shall at all times during the Contract term remain responsible. The Contractor agrees, if requested by the Commissioner or his or her designee, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance, and organizational and financial capacity. Additional responsibilities required of the 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, are specified within the provisions of Article 5 of the General Conditions.

ARTICLE 6 - Contract Term

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 **six hundred and seventy (670) calendar days** from the Effective Date of the Agreement, plus twenty (20) calendar days.

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 Effective Date of the Agreement, plus twenty (20) calendar days.

6.3 The Work will be completed and ready for final payment in accordance with the General Conditions within **Seven hundred (700) calendar days** from the Effective Date of the Agreement, plus twenty (20) calendar days

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 five thousand dollars **($5,000.00)** 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 if applicable 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 thousand dollars **($5,000.00)** for each day that expires after the Contract Time specified in paragraph 6.3 above for completion and readiness for final 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 6.2 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. Contractor shall provide complete and accurate billing invoices to the Department in order to receive payment. Billing invoices submitted to the Department must contain all information and supporting documentation required by the Contract, the Department, and the State Comptroller.

Payments for expenditures incurred under this contract will be rendered electronically to the ***Recipient/Contractor/Vendor*** unless payment by paper check is expressly authorized by the Commissioner of the Department (Commissioner), in the Commissioner's sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The ***Recipient/Contractor/ Vendor*** shall comply with the ***Office of the State Comptroller's (OSC's)*** procedures to authorize electronic payments. Authorization forms are available at the ***OSC's*** website at www.osc.state.ny.us/epay/index.htm, by e-mail at epunit@osc.state.ny.us or by telephone at (518) 474-4032. The ***Recipient/Contractor/Vendor*** acknowledges that it will not receive payment under this ***Contract*** if it does not comply with the ***OSC's*** electronic payment procedures, except where the Commissioner has expressly authorized payment by paper check as set forth above.

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.

12.6 Termination for Non-Responsibility: Upon written notice to the Contractor, and a reasonable opportunity to be heard with appropriate Department officials or staff, the Contract may be terminated by the Commissioner, or his or her designee, at the Contractor's expense where the Contractor is determined by the Commissioner, or his or her designee, to be non-responsible. In such event, the Commissioner, or his or her designee, may complete the contractual requirements in any manner he or she may deem advisable and pursue available legal or equitable remedies for breach.

12.7 Suspension of Work (for Non-Responsibility): The Commissioner, or his or her designee, in his or her sole discretion, reserves the right to suspend any or all activities under this Contract, at any time, when he or she discovers information that calls into question the responsibility of the Contractor. In the event of such suspension, the Contractor will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Contractor must comply with the terms of the suspension order. Contract activity may resume at such time as the Commissioner, or his or her designee, issues a written notice authorizing a resumption of performance under the Contract.

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.

New York State Department of Environmental Conservation
Division of Environmental Remediation
Brianna Scharf, P.E. - Project Manager - Remedial Bureau E
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.

All documents and data are to be submitted in electronic format to the Engineer and Department. The Engineer/Department will not approve a final report unless, and until, all documents and data generated in support of that report have been submitted in accordance with the electronic submission protocols. Information on the format of data submissions can be found at: http://www.dec.ny.gov/chemical/62440.html . Information on document submissions can be found at: http://www.dec.ny.gov/regulations/2586.html.

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- (6) year period shall commence to run as of the date of final payment.

ARTICLE 18 - Effective Date

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

ARTICLE 19 – Vendor Responsibility

The Department recommends that vendors file a required Vendor Responsibility Questionnaire online via the New York State VendRep System. To enroll in and use the New York State VendRep System, see the VendRep System Instructions available at: http://www.osc.state.ny.us/vendrep/vendor-_index.htm or go directly to the VendRep System online at https://portal.osc.state.ny.us/.

Vendors must provide their New York State Identification Number when enrolling. To request assignment of a Vendor ID or for VendRep System assistance, contact the Office of the State Comptroller's Help Desk at 866-370-4672 or 518-408-4672 or by email at: ciohelpdesk@osc.state.ny.us. Vendors opting to complete and submit a paper questionnaire can obtain the appropriate questionnaire from the VendRep website www.osc.state.ny.us/vendrep or may

contact the Department of the Office of the State Comptroller's Help Desk for a copy of the paper form.

ARTICLE 20 - 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 Agreement, is the total of:

Bid

$ _____ (Express Sum in Words)

$ _____ (Express Sum in Numbers)

Plus/Minus executed change order(s)

SIGNATURE PAGE

IN WITNESS WHEREOF, this Contract has been duly executed by the parties hereto on the day and year appearing following their respective signatures.

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."

CONTRACTOR SIGNATURE
By:
Print Name:
Title:
Dated:

DEPARTMENT SIGNATURE
By:
Print Name:
Title:
Dated:

Contractor Acknowledgement

State of _____)
) ss.:
County of _____)

On the _____day of _____ in the year _____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____ Notary Public

ATTORNEY GENERAL SIGNATURE
Approved as to Form:
Dated:

COMPTROLLER SIGNATURE
Approved: Thomas P. DiNapoli State Comptroller
Dated:

THIS PAGE WAS

SECTION VI

Agreement – Attachment A

SEPARABLE PARTS OF THE WORK

Separable Part A - Loading and Unloading Platform
Contractor shall construct the dredge material loading and unloading platforms per applicable specifications 05-52-13, 05-50-00, 05-12-00, 03-30-00. There are two platforms to be constructed to facilitate the loading and unloading of the dredge materials required to construct the ET Cover System. These platforms will be used to load and unload the Upland Disposal Site (UDS) dredge materials from the barges that are transported to the site along the Erie Canal system. One of the platforms is required to be constructed at the Upland Disposal Site (UDS 4-26) (Loading Platform) and one platform is required to be constructed at the Utica Dump Site (Unloading Platform).

This part includes all specified work required to satisfactorily prepare the two locations and construct the loading and unloading platforms associated with Separable Part A. The following work elements associated with the construction of the loading and unloading platforms are included under Separable Part A:

- Each of the platform shoreline areas are to be prepped for construction of the platforms
- The Contractor shall provide all labor, materials, equipment, and incidentals necessary to install the Loading Platform located at the UDS area and the Unloading platform located at the Utica Dump Site
- Dredge the canal sediment to the depth specified along the area of each platform to allow barge access
- Complete the required bank excavation
- Install the piles
- Erect the steel framing
- Set the wood decking
- Restoration of the shoreline banks at each location with the specified riprap and stone

Separable Part A shall be Substantially Completed within two hundred (200) calendar days from the Effective Date of the Agreement plus twenty (20) calendar days. Liquidated damages shall be in the amount of five thousand dollars ($5,000.00) for each day that expires until the Department considers this separable part of the work satisfactorily complete. Separable Part A will not be considered substantially complete until the loading and unloading platforms are put into service and can be used to load and unload the UDS Dredge materials.

Separable Part B - Demolition of the Incinerator Stack, Associated Subgrade Structures and Former Pump House
Contractor shall demolish, load, haul and dispose of the Incinerator Stack, Associated Subgrade Structures and the Abandoned Pump House per applicable specification 02-82-33. This work shall be performed under DOL Variance for demolition with asbestos in place. Demolition of the Incinerator Stack, Associated Subgrade Structures and Abandoned Pump House with asbestos containing materials shall be transported and disposed of at a certified disposal facility in accordance with applicable Laws and Regulations.

This part includes all specified work required to satisfactorily demolish and dispose of the Incinerator Stack, Associated Subgrade Structures and the Abandoned Pump House. The following work elements are included under Separable Part B:

- Obtain the demolition permit from the City of Utica
- Submit all notifications to the Department of Labor (DOL) and the United Stated Environmental Protection Agency (USEPA).
- Demolition of the Incinerator Stack
- Demolition Associated Subgrade Structures and the Former Pump House
- Coordination with NYSDOL and USEPA permits for demolition of asbestos containing structures
- Develop all work plans to be prepared by the CONTRACTOR, associated with the demolition work.
- Environmental controls during demolition as specified in Specification 02-82-33 ,
- Demolition debris management,
- Temporary controls during demolition (i.e. temporary fence)
- Backfilling and abandonment of the associated subgrade structures

Separable Part B shall be Substantially Completed within two hundred seventy five (275) calendar days from the Effective Date of the Agreement plus twenty (20) calendar days. Liquidated damages shall be in the amount of five thousand dollars ($5,000.00) for each day that expires until the Department considers this separable part of the work satisfactorily complete. Separable Part A will not be considered substantially complete until the demolition of the Incinerator Stack, Associated Subgrade Structures and Abandon Pump House has been demolished, and disposed of offsite.

SECTION VII

Appendices A, B, C & D

APPENDIX A

STANDARD CLAUSES FOR NEW YORK STATE CONTRACTS

PLEASE RETAIN THIS DOCUMENT
FOR FUTURE REFERENCE.

June 2023

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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, licenser, 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 State's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the contracting agency and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. The State retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the State. The Contractor may, however, assign its right to receive payments 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, if this contract exceeds $50,000 (or $75,000 for State University of New York or City University of New York contracts for goods, services, construction and printing, and $150,000 for State University Health Care Facilities) 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 $25,000, 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, either for itself or its customer agencies by the Office of General Services Business Services Center, is required when such contracts exceed $85,000. Comptroller's approval of contracts established as centralized contracts through the Office of General Services is required when such contracts exceed $125,000, and when a purchase order or other procurement transaction issued under such centralized contract exceeds $200,000.

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, nor subject any individual to harassment, because of age, race, creed, color, national origin, citizenship or immigration status, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or domestic violence victim status or because the individual has opposed any practices forbidden under the Human Rights Law or has filed a complaint, testified, or assisted in any proceeding under the Human Rights Law. 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. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of any State approved sums due and owing for work done upon the project.

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 (2 NYCRR § 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) Identification Number(s). Every invoice or New York State Claim for Payment submitted to a New York State agency by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, 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 the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, 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 and 5 NYCRR Part 143, 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 the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(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, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts 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. 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 clause. 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 Department of Economic Development's Division 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 Section 165 of the State Finance Law, (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 and Technology Development
625 Broadway
Albany, New York 12245
Telephone: 518-292-5100

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
633 Third Avenue 33rd Floor
New York, NY 10017
646-846-7364
email: mwbebusinessdev@esd.ny.gov
https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp

The Omnibus Procurement Act of 1992 (Chapter 844 of the Laws of 1992, codified in State Finance Law § 139-i and Public Authorities Law § 2879(3)(n)–(p)) 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, codified in State Finance Law § 165(6) and Public Authorities Law § 2879(5)) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 2023, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

22. COMPLIANCE WITH BREACH NOTIFICATION AND DATA SECURITY LAWS. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law §§ 899-aa and 899-bb and State Technology Law § 208).

23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW. If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4)(g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the agency that awarded the contract, the Department of Civil Service and the State Comptroller.

24. PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law §§ 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law §§ 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

25. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS.
To the extent this agreement is a contract as defined by Tax Law § 5-a, if the contractor fails to make the certification required by Tax Law § 5-a or if during the term of the contract, the Department of Taxation and Finance or the covered agency, as defined by Tax Law § 5-a, discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if the covered agency determines that such action is in the best interest of the State.

26. IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law § 165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: https://ogs.ny.gov/iran-divestment-act-2012

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law § 165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

27. ADMISSIBILITY OF REPRODUCTION OF CONTRACT. Notwithstanding the best evidence rule or any other legal principle or rule of evidence to the contrary, the Contractor acknowledges and agrees that it waives any and all objections to the admissibility into evidence at any court proceeding or to the use at any examination before trial of an electronic reproduction of this contract, in the form approved by the State Comptroller, if such approval was required, regardless of whether the original of said contract is in existence.

APPENDIX B

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 Hold harmless** 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 omission or tortious act of the Contractor, its agents, employees, suppliers or subcontractors in the performance of this contract. The Department and the State of New York may retain such monies from the amount due Contractor as may be necessary to satisfy any claim for damages, costs and the like, which is asserted against the Department and/or the State of New York.

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. **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.

VIII. **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 DEC determination, unless the Contractor files a written appeal of that decision with the designated appeal individual (ADAI@) 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 DEC decision unless the Contractor files a written appeal of that decision with the Chair of the Contract Review Committee (ACRC@) within twenty days of receipt of that decision.

The designated individual to hear disputes is:

Michael Cruden, P.E.
(Name and Title)

625 Broadway Albany NY, 12233-7017
(Address)

(518) 402-9825
(Telephone)

The designated appeal individual to review decisions is:

David Harrington, P.E.
(Name and Title)

625 Broadway Albany NY, 12233-7017
(Address)

(518) 402-9565
(Telephone)

The Chair of the Contract Review Committee is:
Department of Environmental Conservation

Director, Division of Fiscal Management
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 DEC 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 DEC 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) 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.

(k) The CRC will promptly convene a review in accordance with Article 15-A of the Executive Law and the regulations promulgated thereunder.

IX. 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.

X. **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.

XI. **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.

XII. **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.

XIII **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.

XIV. **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.

XV. **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.

(4) 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.

XVI. **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.

XVII. **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.

XVIII. **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.

XIX. **Article 15-Requirements**

PARTICIPATION BY MINORITY GROUP MEMBERS AND WOMEN WITH RESPECT TO STATE CONTRACTS: REQUIREMENTS AND PROCEDURES

(a) General Provisions

(1)The Department is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 ("MWBE Regulations") for all State contracts as defined therein, with a value (1) in excess of $25,000 for labor, services, equipment, materials, or any combination of the foregoing or (2) in excess of $100,000 for real property renovations and construction.

(2)The Contractor to the subject contract (the "Contractor" and the "Contract," respectively) agrees, in addition to any other nondiscrimination provision of the Contract and at no additional cost to the New York State Department (the "Department", to fully comply and cooperate with the Department in the implementation of New York State Executive Law Article 15-A. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for certified minority and women-owned business enterprises ("MWBEs"). Contractor's demonstration of "good faith efforts" pursuant to 5 NYCRR §142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the "Human Rights Law") or other applicable federal, state or local laws.

(3)Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, non-responsibility and/or a breach of contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to Section VII of this Article or enforcement proceedings as allowed by the Contract.

(b) Contract Goals

(1)For purposes of this procurement, the Department hereby establishes an overall goal of 30% for Minority and Women-Owned Business Enterprises ("MWBE") participation, (based on the current availability of qualified MBEs and WBEs).

(2)For purposes of providing meaningful participation by MWBEs on the Contract and achieving the Contract Goals established in Section II-A hereof, Contractor should reference the directory of New York State Certified MWBEs found at the following internet address;

https://ny.newnycontracts.com

Additionally, the Contractor is encouraged to contact the Division of Minority and Woman Business Development ((518) 292-5250; (212) 803-2414; or (716) 846-8200) to discuss additional methods of maximizing participation by MWBEs on the Contract.

(3)Where MWBE goals have been established herein, pursuant to 5 NYCRR §142.8, Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract. In accordance with Section 316-a of Article 15-A and 5 NYCRR §142.13, the Contractor acknowledges that if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of contract and the Contractor shall be liable to the Department for liquidated or other appropriate damages, as set forth herein.

(c) Equal Employment Opportunity (EEO)

(1) Contractor agrees to be bound by the provisions of Article 15-A and the MWBE Regulations promulgated by the Division of Minority and Women's Business Development of the Department of Economic Development (the "Division"). If any of these terms or provisions conflict with applicable law or regulations, such laws and regulations shall supersede these requirements. Contractor shall comply with the following provisions of Article 15-A:

(i)Contractor and Subcontractors shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

(ii)The Contractor shall submit an EEO policy statement to the Department within seventy two (72) hours after the date of the notice by Department to award the Contract to the Contractor.

(iii)If Contractor or Subcontractor does not have an existing EEO policy statement, the Department may provide the Contractor or Subcontractor a model statement. This statement can be found at the link provided in Section 8.

(iv)The Contractor's EEO policy statement shall include the following language:

a. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force.

b. The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the 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.

c. The Contractor shall request each employer Department, 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 employer Department, 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.

d. The Contractor will include the provisions of Subdivisions (a) through (c) of this Subsection 4 and Paragraph "E" of this Section III, which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Contract.

e. **EEO Contract Goals** for the purposes of this procurement, the Department hereby establishes a goal of **0**% Minority Labor Force Participation**, 0%** Female Labor Force Participation.

(2) Staffing Plan Form

To ensure compliance with this Section, the Contractor shall submit a staffing plan to document the composition of the proposed workforce to be utilized in the performance of the Contract by the specified categories listed, including ethnic background, gender, and Federal occupational categories. Contractors shall complete the Staffing plan form and submit it as part of their bid or proposal or within a reasonable time, but no later than the time of award of the contract.

(3) Workforce Employment Utilization Report Form ("Workforce Report")

(i) Once a contract has been awarded and during the term of Contract, Contractor is responsible for updating and providing notice to the Department of any changes to the previously submitted Staffing Plan. This information is to be submitted on a quarterly basis during the term of the Contract to report the actual workforce utilized in the performance of the Contract by the specified categories listed including ethnic background, gender, and Federal occupational categories. The Workforce Report must be submitted to report this information.

(ii) Separate forms shall be completed by Contractor and any subcontractor performing work on the Contract.

(iii) In limited instances, Contractor may not be able to separate out the workforce utilized in the performance of the Contract from Contractor's and/or subcontractor's total workforce. When a separation can be made, Contractor shall submit the Workforce Report and indicate that the information provided related to the actual workforce utilized on the Contract. When the workforce to be utilized on the contract cannot be separated out from Contractor's and/or subcontractor's total workforce, Contractor shall submit the Workforce Report and indicate that the information provided is Contractor's total workforce during the subject time frame, not limited to work specifically under the Contract.

(2) Contractor shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Contractor and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(d) MWBE Utilization Plan

(1) The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan either prior to, or at the time of, the execution of the contract.

(2) Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section III-A of this Appendix.

(3)Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, Department shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsiveness.

(e) Waivers

(1)For Waiver Requests Contractor should use Waiver Request Form.

(2)If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a Request for Waiver form documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, the Department shall evaluate the request and issue a written notice of acceptance or denial within twenty (20) days of receipt.

(4) If the Department, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports determines that Contractor is failing or refusing to comply with the Contract goals and no waiver has been issued in regards to such non-compliance, the Department may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

(f) Quarterly MWBE Contractor Compliance Report

Contractor is required to submit a Quarterly MWBE Contractor Compliance Report Form to the Department by the 10th day following each end of quarter over the term of the Contract documenting the progress made towards achievement of the MWBE goals of the Contract.

(g) Liquidated Damages - MWBE Participation

(1)Where Department determines that Contractor is not in compliance with the requirements of the Contract and Contractor refuses to comply with such requirements, or if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals, Contractor shall be obligated to pay to the Department liquidated damages.

(2) Such liquidated damages shall be calculated as an amount equaling the difference between:

(i) All sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and

(ii) All sums actually paid to MWBEs for work performed or materials supplied under the Contract.

(3) In the event a determination has been made which requires the payment of liquidated damages and such identified sums have not been withheld by the Department, Contractor shall pay such liquidated damages to the Department within sixty (60) days after they are assessed by the Department unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Director of the Division of Minority and Woman Business Development pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the liquidated damages shall be payable if Director renders a decision in favor of the Department.

(h) Forms

The following forms referenced in Article XVIII 3-A-3, 3B, 3C and 5A can be found at http://www.dec.ny.gov/about/48854.html

Appendix C

Standard Clauses for Ethics in all NYSDEC 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 “Offeror” herein refers to any party submitting an application, bid, proposal, or other documents in response to this procurement. The word "Contractor" herein refers to any party to the contract, other than the New York State Department of Environmental Conservation (hereinafter "Department").

I. Conflict of Interest

A. Procurement Phase:

1. An Offeror will disclose any existing or contemplated relationship with any other person or entity, including relationships with any member, shareholders of 5% or more, parent, subsidiary, or affiliated entity, which would constitute an actual or potential conflict of interest or appearance of impropriety, relating to other clients/customers of the Offeror or former officers and employees of the Agencies and their Affiliates, in connection with the Offeror rendering services enumerated in this procurement. If a conflict does or might exist, the Offeror will describe how the Offeror would eliminate or prevent it. This description will include, but not be limited to what procedures will be followed to detect, notify the Agencies of, and resolve any such conflicts.

2. The Offeror must disclose whether it, or any of its members, shareholders of 5% or more, parents, affiliates, or subsidiaries, have been the subject of any investigation or disciplinary action by the New York State Joint Commission on Public Ethics or its predecessor State entities (collectively, “Commission”), and if so, a brief description must be included in the Offeror’s response indicating how any matter before the Commission was resolved or whether it remains unresolved.

3. The Offeror/Contractor has provided a form (Vendor Assurance of No Conflict of Interest or Detrimental Effect attached hereto), signed by an authorized executive or legal representative attesting that the Offeror’s/Contractor’s performance of the services does not and will not create a conflict of interest with, nor position the Offeror/Contractor to breach any other contract currently in force with the State of New York, that the Offeror/Contractor will not act in any manner that is detrimental to any State project on which the Offeror/Contractor is rendering services.

B. Contract Phase:

1. The Contractor hereby reaffirms the attestations made in its proposal and covenants and represents that there is and shall be no actual or potential conflict of interest that could prevent the Contractor's satisfactory or ethical performance of duties required to be performed pursuant to the terms of this contract. The Contractor shall have a duty to notify the Department immediately of any actual or potential conflicts of interest.

2. In conjunction with any subcontract under this contract, the Contractor shall obtain and deliver to the Department, prior to entering into a subcontract, a Vendor Assurance of No Conflict of Interest or Detrimental Effect form, signed by an authorized executive or legal representative of the subcontractor. The Contractor shall also require in any subcontracting agreement that the subcontractor, in conjunction with any further subcontracting agreement, obtain and deliver to the Department a signed and completed Vendor Assurance of No Conflict of Interest or Detrimental Effect form for each of its subcontractors prior to entering into a subcontract.

3. The Department and the Contractor recognize that conflicts may occur in the future because the Contractor may have existing or establish new relationships. The Department will review the nature of any relationships and reserves the right to terminate this contract for any reason, or for cause, if, in the judgment of the Department, a real or potential conflict of interest cannot be cured.

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 prior 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.

5. The Department may terminate this contract in whole or in part, if it deems such termination necessary to avoid a 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 allowed by law or other applicable provisions of this contract regarding termination.

6. 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.

7. ***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.***

   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.

   a. 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.

b. 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.

II. PUBLIC OFFICERS LAW

Contractors, consultants, vendors, and subcontractors may hire former State Agency or Authority employees. However, as a general rule and in accordance with New York Public Officers Law, former employees of the State Agency or Authority may neither appear nor practice before the State Agency or Authority, nor receive compensation for services rendered on a matter before the State Agency or Authority, for a period of two years following their separation from State Agency or Authority service. In addition, former State Agency or Authority employees are subject to a "lifetime bar" from appearing before the State Agency or Authority or receiving compensation for services regarding any transaction in which they personally participated or which was under their active consideration during their tenure with the State Agency or Authority.

III. ETHICS REQUIREMENTS

The Contractor and its subcontractors shall not engage any person who is, or has been at any time, in the employ of the State to perform services in violation of the provisions of the New York Public Officers Law, other laws applicable to the service of State employees, and the rules, regulations, opinions, guidelines or policies promulgated or issued by the New York State Joint Commission on Public Ethics, or its predecessors (collectively, the "Ethics Requirements").

The Contractor certifies that all of its employees and those of its subcontractors who are former employees of the State and who are assigned to perform services under this contract shall be assigned in accordance with all Ethics Requirements. During the Term, no person who is employed by the Contractor or its subcontractors and who is disqualified from providing services under this contract pursuant to any Ethics Requirements may share in any net revenues of the Contractor or its subcontractors derived from this Contract. The Contractor shall identify and provide the State with notice of those employees of the Contractor and its Subcontractors who are former employees of the State that will be assigned to perform services under this Contract, and make sure that such employees comply with all applicable laws and prohibitions.

The State may request that the Contractor provide it with whatever information the State deems appropriate about each such person's engagement, work cooperatively with the State to solicit advice from the New York State Joint Commission on Public Ethics, and, if deemed appropriate by the State, instruct any such person to seek the opinion of the New York State Joint Commission on Public Ethics. The State shall have the right to withdraw or withhold approval of any subcontractor if utilizing such subcontractor for any work performed hereunder would be in conflict with any of the Ethics Requirements. The State

shall have the right to terminate this Contract at any time if any work performed hereunder is in conflict with any of the Ethics Requirements.

IV. SUBCONTRACTING

The Contractor agrees not to subcontract any of its services, unless as indicated in its proposal, without the prior written approval of the Department. Approval shall not be unreasonably withheld upon receipt of written request to subcontract.

The Contractor may arrange for a portion/s of its responsibilities under this Contract to be subcontracted to qualified, responsible subcontractors, subject to prior approval of the Department. If the Contractor decides to subcontract a portion of the services, the subcontractors must be clearly identified and the nature and extent of its involvement in and/or proposed performance under this contract must be fully explained by the Contractor to the Department. As part of this explanation, the subcontractor must submit to the Department a completed Vendor Assurance of No Conflict of Interest or Detrimental Effect form, as required by the Contractor prior to execution of this contract.

The Contractor retains ultimate responsibility for all services performed under the contract.

All subcontracts shall be in writing and shall contain provisions, which are functionally identical to, and consistent with, the provisions of this contract including, but not limited to, the body of this contract, Appendix A – Standard Clauses for New York State Contracts, Appendix B – Standard Clauses for All New York State Department of Environmental Conservation Contracts, Appendix C - Standard Clauses for Ethics in all New York State Department of Environmental Conservation Contracts, and the Solicitation Document.

Unless waived in writing by the Department, all subcontracts between the Contractor and subcontractors shall expressly name the State, through the Department, as the sole intended third party beneficiary of such subcontract. The Department reserves the right to review and approve or reject any subcontract, as well as any amendment to said subcontract(s), and this right shall not make the Department or the State a party to any subcontract or create any right, claim, or interest in the subcontractor or proposed subcontractor against the Department.

The Department reserves the right, at any time during the term of the contract, to verify that the written subcontract between the Contractor and subcontractors is in compliance with all of the provisions of this Section and any subcontract provisions contained in this contract. The Contractor shall give the Department immediate notice in writing of the initiation of any legal action or suit which relates in any way to a subcontract with a subcontractor or which may affect the performance of the Contractor's duties under the contract. Any subcontract shall not relieve the Contractor in any way of any responsibility, duty and/or obligation of the contract.

If at any time during performance under this contract total compensation to a subcontractor exceeds or is expected to exceed $100,000, or as otherwise requested by the Department that subcontractor shall be required to submit and certify a Vendor Responsibility Questionnaire.

Appendix D

New York State Department of Environmental Conservation
Guidelines Regarding Permissible Contacts During a Procurement and the 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 offerers[1] 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 period[2] 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:

- 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.

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[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 posting, on a governmental entity's website, in a newspaper of general circulation, or in the procurement opportunities newsletter in accordance with Article 4-C of the New York State Economic Development Law of written notice, advertisement or solicitation of a request for proposal, invitation for bids or solicitation of proposals, or any other method provided for by law or regulation for soliciting a response from offerers intending to result in a procurement contract with a governmental entity and ending with the final contract award and approval by the governmental entity and, where applicable, the 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: https://ogs.ny.gov/acpl. A copy of the new Procurement Lobby Law is also available on this website. Frequently Asked Questions (FAQ's) and answers adopted by the council may be found at the following address: https://online.ogs.ny.gov/legal/lobbyinglawfaq/default.aspx

SECTION VIII

General Conditions

ARTICLE 1 - Preliminary Matters

Copies of Documents:

1.1 Department shall furnish to Contractor without charge up to five (5) 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 (20) calendar 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 – *Contractor's Responsibilities* 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 ten (10) calendar 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 (3) 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 (3) 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 (3) 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 (20) 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, Design Engineer, 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 New York State licensed 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 the 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 3.5 and 3.6) 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 3.9 and 3.10, 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.

Physical Conditions - Underground Facilities Shown or Indicated:

3.5 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:

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

3.5.2 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.

3.5.3 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, a reasonable interval of time, up to thirty (30) 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 (30) 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 (15) 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.

3.5.4 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.

3.5.5 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, and satisfactory fulfillment of applicable permits, fees, or requirements of the proposed action.

Underground Facilities Not Shown or Indicated:

3.6 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 5.23), 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.

3.6.1 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 3.6. Further, up to thirty (30) 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.

3.6.2 No claim by Contractor under paragraph 3.6 of the General Conditions will be allowed unless more than thirty (30) days has elapsed and 1) Contractor has given the notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen (15) days thereafter, Contractor has submitted to Department a written Proposed Change Order claim in accordance with the requirements of Articles 8, 9, 10 and 11 of the General Conditions, and the Standard Specifications.

Report of Differing Site Conditions:

3.7 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, Contractor shall, immediately after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 5.23), 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.

3.8 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.

3.9 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."

3.10 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.

3.11 No claim by Contractor under paragraph 3.10 of the General Conditions will be allowed unless: 1) Contractor has given the written notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen (15) 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.

3.12 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 3.8, and Department's issuance of a Change Order or a Proposed Change Order as described in paragraph 3.9 in connection with a report of differing conditions. Further, a reasonable interval of time, not less than thirty (30) 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 (30) days is used, no claim will be allowed unless (1) Contractor has given the written notice required in paragraph 3.7 of the General Conditions, and (2) within fifteen (15) days thereafter, Contractor has submitted to Department a written Proposed Change Order claim in accordance with the requirements of Articles 8, 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 an original or 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. 633015".

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 The Contractor shall procure, at its sole cost and expense, all insurance required herein. During the term of the contract and any renewal or extensions thereof, the Contractor shall maintain in force, at its sole cost and expense, policies of insurance as required herein. All insurance required herein shall be written by companies that have an A.M. Best Company rating of "A-," Class "VII" or better. In addition, companies writing insurance intended to comply with the requirements herein should be licensed or authorized by the New York State Department of Financial Services to issue insurance in the State of New York. The Department may, in its sole discretion, accept policies of insurance written by a non-authorized carrier or carriers when certificates and/or other policy documentation are accompanied by a completed Excess Lines Association of New York (ELANY) affidavit or other documents demonstrating the company's strong financial rating. If, during the term of a policy, the carrier's A.M. Best rating falls below "A-," Class "VII," the insurance must be replaced, on or before the renewal date of the policy, with insurance that meets the requirements above..

The Contractor shall furnish to the Department a certificate or certificates with the appropriate endorsements showing that it has complied with this Article. The insurance documentation shall provide that:

a. Liability and protective liability insurance policies shall provide primary and non-contributory coverage to the NYS Department of Environmental Conservation for any claims arising from the Contractor's Work under this contract, or as a result of the Contractor's activities. Insurance policies will not be accepted that:
   - remove or restrict blanket contractual liability located in the "insured contract" definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) so as to limit coverage against claims that arise out of work; or
   - remove or modify the "insured contract" exception to the employers liability exclusion; or
   - do not cover the additional insured for claims involving injury to employees of the named insured or subcontractors.

   The Contractor shall provide fully-completed ACORD 855 New York Construction Certificate of Liability Insurance Addendum along with specified General Liability certificate and accompanying endorsements.

b. The State of New York, NYS Department of Environmental Conservation, its officers, agents and employees, Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233-7017, shall be listed as Certificate Holder on all liability insurance certificate(s), as additional insureds on endorsement(s) and on additional supporting documentation.

c. All applicable insurance policies pertaining to this Article shall include a waiver of subrogation in favor of the State of New York, the Department of Environmental Conservation, their officers, agents, and employees as additional insureds.

d. Said additional insured and waiver of subrogation coverage shall be in the form of an endorsement, or specified by the policy as blanket coverage as per written contract.

e. Policies shall not be changed or canceled until thirty (30) days prior written notice has been given to the Department; as evidenced by an endorsement, or declarations page.

f. Insurance documentation shall disclose any deductible, self-insured retention, aggregate limit or any exclusion to the policy that materially changes the coverage required by the Contract.

g. Endorsements in writing must be added to and made part of the insurance contract for the purpose of changing the original terms to reflect the revisions and additions as described. A copy of these endorsements must be provided to the Department.

h. Applicable insurance policy number(s) referenced on the ACORD form must be referenced in the supporting documentation requested by the Department and supplied by the insurance company (e.g. endorsement page, declarations page, etc.).

i. Worker's Compensation and Disability Benefits certificates shall name the New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, 12th Floor, Albany, NY 12233-7017, as entity requesting proof of coverage.

j. This Contract shall be void and of no effect unless the Contractor procures the required insurance policies and maintains them until acceptance or completion of the work, whichever event is later. If at any time during the term of this contract the coverage provisions and limits of the policies required herein do not meet the provisions and limits set forth in the Contract or proof thereof is not provided to the Department, the Contractor shall immediately cease Work on the Project. The Contractor shall not resume Work on the Project until authorized to do so by the Department. Any delay, time lost, or additional cost incurred as a result of the Contractor not having insurance required by the Contract or not providing proof of same in a form acceptable to the Department, shall not give rise to a delay claim or any other claim against the Department. Should the Contractor fail to provide or maintain any insurance required by this contract, or proof thereof is not provided to the Department, the Department may withhold further contract payments, treat such failure as a breach or default of this contract, and/or, after providing written notice to the Contractor, require the Surety "if any" to secure appropriate coverage and/or purchase insurance complying with the Contract and charge back such purchase to the Contractor.

k. Should the Contractor engage a subcontractor, the Contractor shall endeavor to impose the insurance requirements of this document on the subcontractor, as applicable. The Contractor shall determine the required insurance types and limits, commensurate with the work of the subcontractor and maintain the certificate or certificates and endorsements for all subcontractors hired as part of the Contractor's records.

The following types and amounts of insurance are required for this Contract:

4.2.1 **Workers' Compensation:** For work to be performed in New York State, the Contractor shall provide and maintain full New York State coverage during the life of this contract for the benefit of such employees as are required to be covered by the New York State Workers' Compensation Law.

If the agreement involves work on or near a shoreline, a U.S. Longshore and Harbor Workers' Compensation Act and/or Jones Act policy as applicable must be provided. Any waiver of this requirement must be approved by the Agency and will only be granted in unique or unusual circumstances.

Evidence of Workers' Compensation and Employers Liability coverage must be provided on one of the following forms specified by the Chairman of the New York State Workers' Compensation Board:

FORM #	FORM TITLE
C-105.2	Certificate of Workers' Compensation Insurance (September 2007, or most current version)
U-26.3	State Insurance Fund Version of the C-105.2 form
SI-12/ GSI-105.2	Certificate of Workers' Compensation Self-Insurance
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/stamped, or until policy expiration, whichever is earlier.

Please note - ACORD forms are NOT acceptable proof of New York State Workers' Compensation Insurance coverage.

Additional information can be obtained at the Workers' Compensation website:
http://www.wcb.ny.gov/content/main/Employers/Employers.jsp

4.2.2 **Disability Benefits:** For work to be performed in New York State, 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 New York State Disability Benefits Law. Any waiver of this requirement must be approved by the Department of Environmental Conservation and will only be granted in unique or unusual circumstances.

Evidence of Disability Benefits coverage must be provided on one of the following forms specified by the Chairman of the New York State Workers' Compensation Board:

FORM #	FORM TITLE
DB-120.1	Certificate of Insurance Coverage under the New York State Disability Benefits Law
DB-155	Certificate of Disability Self-Insurance
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/stamped, or until policy expiration, whichever is earlier.

Please note - ACORD forms are NOT acceptable proof of New York State Disability Benefits Insurance coverage.

Additional information can be obtained at the Workers' Compensation website:
http://www.wcb.ny.gov/content/main/Employers/Employers.jsp

4.2.3 **Commercial General Liability Insurance:** Contractor shall provide and maintain Commercial General Liability Insurance (CGL) covering the liability of the Contractor for bodily injury, property damage, and personal/advertising injury arising from all work and operations under this contract. The limits under such policy shall not be less than the following:

- Each Occurrence limit – $5,000,000
- General Aggregate – $8,000,000
- Products/Completed Operations – $8,000,000
- Personal & Advertising Injury - $1,000,000
- Damage to Rented Premises - $50,000
- Medical Expense - $5,000

Coverage shall include, but not be limited to, the following:

- Premises liability;
- Independent contractors;
- Blanket contractual liability, including tort liability of another assumed in a contract;
- Defense and/or indemnification obligations, including obligations assumed under this contract
- Cross liability for additional insureds;
- Products/completed operations for a term of no less than 3 years, commencing upon acceptance of the work, as required by the contract;
- Explosion, collapse, and underground hazards;
- Contractor means and methods; and
- Liability resulting from Section 240 or Section 241 of the New York State Labor Law.

The following ISO forms must be endorsed to the policy:
CG 20 10 11 85 or an equivalent – Additional Insured-Owner, Lessees or Contractors
CG 25 03 11 85 or an equivalent – Designated Construction Project(s) general aggregate limit (only required for construction contracts).

Limits may be provided through a combination of primary and umbrella/excess liability policies. The CGL aggregate shall be endorsed to apply on a per project basis for construction contracts.

If the activity involves construction or demolition within 50 feet of stations, yards, tracks, or other railroad property, the exclusion of coverage for work done within 50 feet of railroad property must be deleted. Endorsement CG 24 17 or equivalent will be required to reflect the deletion of the Railroad 50-foot exclusion.

4.2.4 **Business Automobile Liability:** Contractor shall provide and maintain Business Automobile Liability insurance covering liability arising out of the use of any registered motor vehicle in connection with the contract, including owned, leased, hired and non-owned vehicles. Such policy shall have a combined single limit for Bodily Injury and Property Damage of at least $1,000,000.

If the Contractor does not own, lease or hire any registered motor vehicles or will not be using any vehicles on State Land proof of Business Automobile Liability Insurance shall not be required for this Contract.

The Contractor shall assume full responsibility and liability that owners and operators of any registered motor vehicles entering State Land to conduct work under this contract carry the same Business Automobile Liability Insurance of the kinds and amounts listed above. NYS Department of Environmental Conservation reserves the right to request proof of the same.

4.2.5 **Environmental Liability:** Contractor shall procure, or otherwise obtain through an approved subcontractor, and maintain in full force and effect throughout the term of the contract, and for two years after completion hereof, pollution legal liability insurance with limits of not less than $5,000,000 providing ***primary*** 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, including any loss, cost or expense incurred as a result of any cleanup of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against the Department of Environmental Conservation arising from the Contractor's work.

This requirement applies to mold as well, if excluded in the commercial general liability policy.

If vehicles are to be used for transporting hazardous materials, the Contractor shall also provide pollution liability broadened coverage for covered autos (endorsement CA 99 48 03 06 or CA 01 12 03 06) as well as proof of MCS 90.

4.2.6 **Professional Liability:** The Contractor shall procure and maintain during and for a period of three (3) years after completion of this contract, Professional Liability Insurance in the amount of $2,000,000 issued to and covering damage for liability imposed on the Contractor by this contract or law arising out of any negligent act, error, or omission in the rendering of or failure to render professional services required by this contract. The professional liability insurance may be issued on a claims-made policy form, in which case the Contractor shall purchase at its sole expense, extended Discovery Clause coverage of up to three (3) years after work is completed if coverage is cancelled or not renewed. The Contractor shall provide coverage for its negligent act, error or omission in rendering or failing to render professional services required by this contract arising out of specifications, installation, modification, abatement, replacement or approval of products, materials or processes containing pollutants, and the failure to advise of or detect the existence or the proportions of pollutants.

Should any subcontractor(s) or supplier(s) retained by the Contractor provide professional services requiring design (i.e. the signature, stamp or certification of a licensed professional), the Contractor shall collect Professional Liability Insurance from the subcontractor(s) or supplier(s) and retain said insurance as part of the contract documents.

A Waiver of Subrogation in favor of the State of New York, the Department of Environmental Conservation, their officers, agents, and employees as Certificate Holder shall apply.

4.2.7 **Contractor's Equipment:** The Contractor shall secure, pay for, and maintain Property Insurance necessary for protection against the loss of owned, borrowed or rented capital equipment and tools, including any tools owned by employees, and any tools or equipment, staging towers, and forms owned, borrowed or rented by the Contractor. The requirement to secure and maintain such insurance is solely for the benefit of the Contractor. Failure of the Contractor to secure such insurance or to maintain adequate levels of coverage shall not render the Department or their agents and employees responsible for any losses; and the Department, their agents and employees shall have no such Liability.

4.2.8 **Builders' Risk:** The Department shall, except as otherwise specified, at all times during the period of construction and until physical completion and acceptance, procure and maintain, at the cost and expense of the Department, "All Risk" Builder's Risk Insurance. The Contractors and Subcontractors will be covered for their work. Losses up to and including $2,500 shall be borne by the Contractor. Reimbursement of loss, if any, is to be made payable to the Department. The Department shall, at the Owner's sole discretion, have power to adjust and to settle with the insurer any loss or claim under said insurance. Coverage shall include sub-limits for property in transit and for property in storage on and off the job site.

4.2.9 **Owners and Contractors Protective Liability:** The Contractor shall obtain Owners/Contractors Protective Liability (OCP) Policy as follows:

- For work related to street, road, highway, and/or bridge work
  - Form CG 00 09, Owners and Contractors Protective Liability Coverage form – Coverage for Operations of the Designated Contractor; AND
  - Form CG 00 14, Special Protective and Highway Liability Policy – New York Department of Transportation

- For projects <u>not</u> related to street, road, highway, and/or bridge work
  - Form CG 00 09, Owners and Contractors Protective Liability Coverage form – Coverage for Operations of the Designated Contractor ONLY

The policy shall be written on a project basis for the benefit of the People of the State of New York, the Department, its officers, agents, and employees, with respect to all operations under this contract by the Contractor or its subcontractors, including in such coverage any omissions and supervisory acts of the Department, its officers, agents, and employees.

The State of New York and the NYS Department of Environmental Conservation, Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233-7012 shall be the Named Insured in the OCP Policy, which shall be promptly furnished to the Department. OCP policy limits shall be no less than $5 Million (Each Occurrence) / $8 Million (General Aggregate).

4.2.10 **Marine Protection & Indemnity:** Contractor shall procure Marine Protection & Indemnity and Hull and Machinery coverage. Hull and Machinery coverage shall be provided for the total value of the watercraft or equipment. The Contractor shall obtain Protective and Indemnity Liability insurance for all marine operations under the Agreement, with a minimum $5,000,000 limit.

4.2.11 **Unmanned Aircraft Systems ("UAS") Liability:** UAS Liability will be required whenever the contracted work includes operation of an Unmanned Aircraft System (UAS), also known as a Drone. The Contractor and/or its subcontractor shall provide an Aviation Liability Insurance policy covering the liability of the operator for bodily injury, property damage, and Personal injury arising from all operation in the amount of $1,000,000.00 per Occurrence.

4.2.12 **Umbrella and Excess Liability:** When the limits of the CGL, Auto, and/or Employers' Liability policies procured are insufficient to meet the limits specified, the Contractor shall procure and maintain Commercial Umbrella and/or Excess Liability policies with limits in excess of the primary; provided, however, that the total amount of insurance coverage is at least equal to the requirements set forth above. Such policies shall follow the same form as the primary.

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 Federal- or New York State-observed holidays. 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 (10) 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 a source other than the 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. Additionally, such information shall 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 any revisions to 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 ten (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 6 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 Contractor(s) 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 Contractor(s) in a timely manner.

5.9 Contractor shall be responsible and liable 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 5.24 through 5.30 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 Appendix B.

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. Contractor shall 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 (1) 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.

5.21 All damage, injury or loss to any property referred to in the above 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 to the extent 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.

5.22 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:

5.23 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, then Contractor, without special instruction or authorization from Engineer or Department, is obligated to act to prevent or mitigate threatened damage, injury or loss. Contractor shall give Engineer prompt telephonic or electronic 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:

5.24 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 (6) physical copies and one electronic copy of all 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 paragraph 5.26 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.

5.25 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 5.26 below.

5.26 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. 27 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.

5.28 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.

5.28.1 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 5.28.

5.28.2 Contractor shall revise and correct Shop Drawings and samples and resubmit them to Engineer for Engineer's second review and return pursuant to paragraph 5.29. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

5.28.3 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 (2nd) 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.

5.28.4 After the Engineer's second (2nd) 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.

5.29 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 5.27 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 5.26.

5.30 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:

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

Weather Protection:

5.32 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:

5.33 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.

5.34 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:

5.35 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:

5.36 Contractor, along with appropriate Subcontractors, suppliers and manufacturers, shall attend weekly, or at an interval agreed to by the Department, 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:

5.37 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:

5.38 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 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 the same as the former Engineer.

7.3 Department shall promptly furnish the data as required under the Contract Documents 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 Duties and Responsibilities

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. Secondarily 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 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.

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 5.24 through 5.30 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 ten (10) days after the date of any such decision, Contractor delivers to Department and to Engineer written notice of disagreement with Engineer's Determination including written documentation supporting such position.

Engineer's Determinations and Claims:

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. Claims 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, or 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 Contractor's disagreement with Engineer's Determination constituting a Claim shall be delivered by Contractor to Engineer and Department within ten days after receipt. Written documentation supporting such position shall be submitted to Department within thirty (30) days

of Engineer's Determination, unless the Department allows an extension of time to submit additional information.

8.10.1 A written demand or written assertion by Contractor seeking the payment of money is not a Claim under this Article until certified as required below. Contractor shall submit with the claim a certification executed by Contractor's Authorized Representative specified in the Contract Documents that:

8.10.1.1 The Claim is made in good faith,

8.10.1.2 Supporting Cost and Pricing Data are current, accurate, and complete to the best of the Contractor's knowledge and belief, and

8.10.1.3 The amount of the Claim accurately reflects the adjustments in Contract Price or Contract Time for which Contractor believes Department is liable.

8.10.2 Contractor agrees that all unresolved claims shall be subject to the Dispute Resolution procedures as provided in Article VIII of Appendix B to the Agreement.

8.10.3 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.

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 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 in accordance with Article 8.10 of the General Conditions within three (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 5.23 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 (3) days of receipt (or issuance) of a Proposed Change Order initiated by Department (or Contractor), and shall be submitted in accordance with Articles 8, 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 8 of the General Conditions, within said thirty (30) 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 8, 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 (15) 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 on EquipmentWatch.com, its successor or equivalent, 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 eight (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 eight (8) hours and 40 hours of actual use: The weekly rate or the product of the hours of actual use used divided by eight (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 EquipmentWatch.com, is successor or equivalent.

10.4.5.9 In the event that a rate is not established in EquipmentWatch.com, its successor or equivalent, 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 EquipmentWatch.com, is successor or equivalent. 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 (50%) 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 it is used on the Work involved or required by Department to be present, not to exceed the rental rate in EquipmentWatch.com, is successor or equivalent, 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 EquipmentWatch.com, is successor or equivalent. 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 $100.00.

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 reallocating 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 (15) 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 5.23 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 (15) 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 and 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 changes by $30,000 or five-percent (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 fifteen-percent (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 one hundred-fifteen-percent (115%) or below eighty-five-percent (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 (7) 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 (15) 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 warrantees 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 warrantees 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 (1) 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 30 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 8, 9 and 10 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, which 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 (30) 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 (30) 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 8, 9, 10, and 11 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 8, 9, 10, and 11 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 (30) 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 8, 9, 10, and 11 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 (7) 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 8, 9, 10, and 11. 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 (14) 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 (5) 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 (7) 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 (7) 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, as-built 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 (10) 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 (7) 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 (22) 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 12.11 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 serve written notice upon Contractor and its surety that it intends to terminate the Contract for cause upon the date specified which shall not be less than seven (7) days from the date of the notice. Such notice shall contain the reasons for the intended termination which shall be effective on the date specified unless Contractor shall cease the violation(s) or make arrangements which are satisfactory to the Department to address the violation(s). Upon termination, the Department may 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.

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

14.4 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 The Department may without cause and without prejudice to any other right or remedy terminate the Contract for convenience upon seven (7) days written notice to Contractor, it's surety and Engineer, and 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 (30) days after it is submitted, or Department fails for one hundred and twenty (120) days to pay Contractor any sum finally determined to be due by Department, then Contractor may, upon seven (7) 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 (7) 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 5.31 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with Department.

ARTICLE 15 - Miscellaneous

Notice and Service:

15.1 The term "notice" in this Article shall refer to any notice required under the Contract for claims (delay, change order, extra work, liquidated damages, etc.) or initial contract disputes against the Department. When notice is required to be sent by the Contractor to the Department, it must be in writing and provided within 15 calendar days of the date that the Contractor knew or should have known of the facts that form the basis of the claim or dispute. Notice should be as factually complete as possible, and contractors should have a continuing duty to promptly provide the

agency with information about conditions of the claim. If a claim or dispute involves a matter of life, health or safety, notice must be made immediately to the Department.

15.1.1 The Contractor shall give the Department immediate notice in writing of the initiation of any legal action or suit which relates in any way to a subcontract with a subcontractor or which may affect the performance of the Contractor's duties under the contract.

15.1.2 The written notice must be addressed and delivered to the Project Manager at the address provided in Article 2 of Section IV.

15.1.3 Written notice may be provided by the Contractor to the Department in one of the three methods to achieve actual notice: (i) first class mail and email; (ii) certified mail and first-class delivery; or (iii) overnight mail and first-class delivery. The written notice shall contain a sufficient description of the claim or dispute pursuant to the provisions of the Contract.

15.1.4 Upon receipt of the written notice from the Contractor, the Department shall provide a written acknowledgment of receipt of notice. The Department's failure to provide written acknowledgment shall not be deemed a breach of contract or alter the Contractor's obligation to provide timely notice.

15.1.5 Any notice to or demand upon Contractor shall be deemed served 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 Contract Documents, or emailed to the electronic address provided in Section V- Bid Forms and Acknowledgement and followed by written notice.

15.1.6 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.

15.1.7 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, at the time of actual receipt thereof.

Computation of Time:

15.2 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:

15.3 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.

15.4 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.

15.5 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:

15.6.1 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.

15.6.2 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.

15.6.3 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:

15.7.1 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.

15.7.2 These documents will be furnished to Department on the forms provided by Department.

15.7.3 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:

15.8 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:

15.9 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 (1) 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:

15.10.1 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.

15.10.2 Contractor shall make available at Contractor's office at all reasonable times the materials described in paragraph 15.10.1 above, for examination, audit, or reproduction, until six (6) years after final payment under this Contract.

15.10.2.1 If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for six (6) years after any resulting final termination settlement.

15.10.2.2 Records pertaining to appeals under Article 8 of Appendix B of the Agreement, 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.

15.10.3 A provision stating that all the requirements of this Article of the 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:

15.11.1 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:

15.11.1.1 Based on adequate price competition;

15.11.1.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public, or

15.11.1.3 Set by New York State law.

15.11.2 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 15.11.1 above.

15.11.3 Any decrease in Contract Price under paragraph 15.11.2 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.

15.11.4 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:

15.11.4.1 Based on adequate price competition;

15.11.4.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

15.11.4.3 Set by New York State law.

15.11.5 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 15.11.4 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.

15.11.6 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:

15.12.1 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.

15.12.2 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:

15.13.1 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.

15.13.2 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 15.13.1.

Unlawful Provisions Deemed Stricken:

15.14.1 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:

15.15.1 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:

15.16 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:

15.16.1 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,

15.16.2 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:

15.17 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:

15.18 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

These Supplementary Conditions (SC) amend or supplement the provisions, as indicated below, of the Contract Documents. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in Section II – Terms and Definitions. Additional terms, if any, used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

SECTION VIII - Article 4.2.c

The CONTRACTOR shall name the State of New York, New York State Department of Environmental Conservation, City of Utica, and NYS Canal Corp. as additional insured and shall provide each of those entities with certificate(s) of insurance indicating the same.

SC 1.0 - PROTECTION OF ON-SITE UTILITIES

The Contractor's attention is directed to the existing utilities running throughout the work. The Contractor is required to take any and all precautions necessary to locate, support and protect these utilities during construction. All costs associated with protecting, supporting, locating, digging test pits, etc., of all utilities or process pipelines shall be included in the prices bid for all work.

The locations of all utilities shown on the contract drawings are based on available in-house information furnished by the owner and utility companies and public agencies with lines and property in the vicinity of the proposed work areas and are not guaranteed to be complete or accurate. The contractor shall obtain utility mark outs on all public and private properties in accordance with all local and state requirements where work under this contract is to be performed. Prior to any excavation or construction, the contractor shall notify the owner, all utility companies and applicable agencies and request a mark out of their lines and properties in the field in the area of the proposed work. In addition, on the project site (outside of public right-of-way), the contractor shall provide the services of an independent utility mark out service subcontractor qualified to locate and mark out all utilities in the vicinity of the work using the appropriate equipment and methods available prior to construction. The subcontractor shall survey (location/elevation) and prepare a utilities location as-built drawing for use by the contractor in performance of the work under this contract.

Prior to any excavation, in addition to utility location and mark outs performed by the contractor, local and state required services and the independent mark out service subcontractor, the contractor shall accurately locate existing utilities by probing test holes and excavating test pits where existing underground utilities are known to exist in the vicinity of the new work and at maximum intervals of 25 feet along the route or within the area of the proposed work. The contractor shall survey (location/elevation) and prepare an as-built drawing of all underground utilities encountered while constructing test pits and/or test hole probes for use in performance of the work under this contract. The contractor shall backfill/restore the holes and pits and mark

out the existing utilities and take extreme caution against damaging the utilities during excavation or sheeting installation.

Schedules for maintenance of utility mark outs on public and private property shall be consistent with New York State law throughout the duration of the Contract.

During construction/excavation, the contractor shall locate each utility by hand digging methods prior to the use of mechanical excavation equipment. During construction/excavation, if the contractor encounters evidence of suspected unmarked utilities, such as magnetic tape or other underground markers, the contractor shall promptly determine the location of the suspected utility, if any, before proceeding with the work. The contractor shall cooperate with the Owner and the utility companies involved to avoid delay or interference of service normally performed by their lines and properties.

The contractor shall be responsible for all costs associated with pre-project construction utility survey(s)/mark out(s), the construction of the test holes and test pit work, and utility as-builts for this project, as well as protection and hand digging operations to verify location of all utilities during construction.

SECTION X

Standard Specifications

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+ + END OF TABLE OF CONTENTS + +

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SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope: Section includes:
   1. Administrative and procedural requirements for selecting materials and equipment for the Project.
   2. Procedural requirements for substitutions of materials and equipment.
   3. Procedural requirements for substitute construction methods or procedures, when construction methods or procedures are specified.
   4. This section supplements the requirements of Article 5.7 of the General Conditions.

B. A proposed substitute will not be accepted for review if:
   1. Approval would require changes in design concept or a substantial revision of the Contract Documents.
   2. Approval would delay completion of the Work or the work of other contractors.
   3. Substitution request is indicated or implied on a Shop Drawing or other submittal, or on a request for interpretation or clarification, and is not accompanied by CONTRACTOR's formal and complete request for substitution.

C. If proposed substitute is not approved, CONTRACTOR shall provide the specified materials, equipment, method, or procedure, as applicable.

D. Approval of a substitute does not relieve CONTRACTOR from requirement for submitting Shop Drawings and other submittals in accordance with the Contract Documents.

E. ENGINEER and DEPARTMENT have the right to rely upon the completeness and accuracy of the information included in CONTRACTOR's request for approval of a substitute, and CONTRACTOR accepts full responsibility for the completeness and accuracy thereof.

F. When approved substitute is defective or fail to perform in accordance with the Contract Documents, responsibility for remedying the defect or failure resides solely with CONTRACTOR and Supplier.

1.2 SUBSTITUTE MATERIALS AND EQUIPMENT

A. Requests for approval of substitute items of materials or equipment will be evaluated in accordance with the requirements of the Article 5.7 of the General Conditions.

B. Procedure:
   1. Submit requests for substitution in accordance with requirements for furnishing submittals, as indicated in Section 01 33 00, Submittal Procedures.
   2. Submit separate request for each proposed substitute.
   3. Submit request for substitution using forms attached to this Section. Complete all information requested on each form and enclose with the forms supplementary information as required. In addition to requirements of the General Conditions and information required on substitution request forms, include with each substitute request the following:
      a. Identification of the materials and equipment (as applicable), including manufacturer's name and address.
      b. Manufacturer's literature with description of the materials and equipment, performance and test data, and reference standards with which materials and equipment comply.
      c. Samples, when appropriate.
      d. Name and address of similar projects on which the materials and equipment were used, date of installation, and names and contact information (including telephone number) for the facility operations and maintenance manager.

1.3 SUBSTITUTE CONSTRUCTION METHODS OR PROCEDURES

A. Where construction methods or procedures are specified, for a period of 15 days after the Effective Date of the Contract, ENGINEER will consider CONTRACTOR's written requests for substitute construction methods or procedures shown or specified in the Contract Documents.

B. The provisions of the General Conditions, as may be modified by the Supplementary Conditions, regarding substitute items of materials and equipment are hereby extended to apply to substitute construction methods or procedures.

C. Procedure:
   1. Submit requests for substitution in accordance with requirements for furnishing submittals, as indicated in Section 01 33 00, Submittal Procedures.
   2. Submit separate request for each proposed substitute.
   3. Submit request for substitution using forms attached to this Section. Complete all information requested on each form and enclose with the forms supplementary information as required. In addition to requirements of the General Conditions and information required on substitution request forms, include with each substitute request the following:
      a. Detailed description of proposed method or procedure.
      b. Itemized comparison of the proposed substitution with the specified method or procedure.

c. Drawings illustrating method or procedure.
d. Other data required by ENGINEER to establish that proposed substitution is equivalent to specified method or procedure.

1.4 CONTRACTOR'S REPRESENTATIONS

A. In submitting request for substitution, CONTRACTOR represents that:
1. CONTRACTOR has read, fully understands and complies with the provisions regarding substitutes as indicated in the General Conditions, as may be modified by the Supplementary Conditions.
2. Substitution request is complete and includes all information required by the Contract Documents.
3. CONTRACTOR certifications required by the General Conditions, as may be modified by the Supplementary Conditions, are valid and made with CONTRACTOR's full knowledge, information, and belief.
4. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitute as for the specified materials, equipment, methods, or procedures, as applicable.
5. CONTRACTOR waives all Claims for additional costs or extension of time related to proposed substitute that subsequently may become apparent.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 ATTACHMENTS

A. The documents listed below and attached following this Section's "End of Section" designation, are part of this Specification Section.
1. Substitution Request Form (two pages).
2. Product Substitution Checklist (one page).

+ + END OF SECTION + +

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SUBSTITUTION REQUEST

Project: _____ Substitution Request Number: _____

_____ From: _____

To: _____ Date: _____

_____ Engineer Project. No._____

Re: _____ Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitute: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 1 to 4 years old ☐ 5 to 10 years old ☐ More than 10 years old

Differences between proposed substitute and specified item: _____

_____

_____

☐ Point-by-point comparative data attached — REQUIRED BY THE CONTRACT DOCUMENTS

Reason for not providing specified item: _____

_____

Similar Installation:

Project: _____ Engineer: _____

Address: _____ Department: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Savings to Owner for accepting substitute: ($)
(attach detailed, itemized estimate)

_____ _____

Proposed substitute changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.
(clarify whether change is to Substantial Completion, Milestone, or time for readiness for final payment)

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST
(Continued)

☐ Substitute product, method, or procedure is subject to payment of licensing fee or royalty (check if "yes" and attach information)

☐ Substitute product, method, or procedure is patented or copyrighted (check if "yes" and attach information)

The undersigned certifies:

- Representations in the General Conditions and in Section 01 25 00, Substitution Procedures, regarding substitutions are valid.
- Same or better warranty and guarantee will be furnished for proposed substitution as for specified item.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitute will have no adverse effect on other trades and will not affect or delay Progress Schedule.
- Cost data as stated above is complete. Claims for additional costs or time related to accepted substitution which may subsequently become apparent are waived.
- Proposed substitute does not affect dimensions and functional clearances.
- Payment will be made for Engineer's review and changes, if any, to the design and Contract Documents, and construction costs caused by the substitute.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

Attachments: ☐

ENGINEER'S REVIEW AND ACCEPTANCE (OR NON-ACCEPTANCE) WILL BE DOCUMENTED IN A FIELD ORDER OR CHANGE ORDER, AS APPROPRIATE. _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ Engineer ☐ Other:

Adapted from CSI Form No. 13.0B, 2004 edition

PRODUCT SUBSTITUTION CHECKLIST

Date: _____ Re: _____

Engineer Proj No.: _____ Manufacturer's Project No.: _____

Filing No.: _____ Contract For: _____

Item Equivalence:

☐ Is the submitted item equivalent to the specified item? _____

☐ Does it serve the same function? _____

☐ Does it have the same dimensions? _____

☐ Does it have the same appearance? _____

☐ Will it last as long? _____

☐ Does it comply with the same codes, and standards and performance requirements? _____

☐ Has the item been used locally, and where are the projects? _____

_____

☐ Has a problem occurred with the item, and what was the remedy? _____

_____

Effect on the Project:

☐ Will the substitute affect other aspects of the construction? _____

☐ Are any details affected and are changes required? _____

☐ What is the cost of the changes? _____

☐ Who pays for the required changes? _____

☐ Are Contract Times affected? _____

_____

Effect on the Warranty:

☐ How does the proposed warranty differ from the specified warranty? _____

_____

☐ Does the manufacturer have a track record of standing behind the warranty? _____

_____

Adapted from CSI Form No. 20.3, 1998 edition

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SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope.
   1. This Section provides requirements which are in addition to provisions of the General Conditions (Articles 9 and 10), as may be modified by the Supplementary Conditions, and includes:
      a. Requests for interpretation.
      b. Minor changes in the Work and Field Orders.
      c. Proposed Change Order Request.
      d. Proposed Change Orders.
      e. Approved Change Orders.

B. Submit Contract modification documents to ENGINEER, addressed to the contact person as specified in the preconstruction conference, and in accordance with Section 01 31 26, Electronic Communication Protocols.

C. Retain at CONTRACTOR's office and at the Site complete copy of each Contract modification document and related documents, and ENGINEER's response.

1.2 REQUESTS FOR INTERPRETATION

A. General.
   1. Transmit written requests for interpretation to ENGINEER. CONTRACTOR may prepare and transmit requests for interpretation.
   2. Prepare and transmit request for interpretation to obtain clarifications or interpretations of the Contract Documents. Report conflicts, errors, ambiguities, and discrepancies in the Contract Documents by requesting an interpretation in accordance with General Conditions.
   3. Do not transmit request for interpretation when other form of communication is appropriate, such as CONTRACTOR's submittals, requests for approvals of substitutes, notices, ordinary correspondence, or other form of communication. Improperly prepared or inappropriate requests for interpretation will be returned without response or action by ENGINEER.
   4. Do not submit request for interpretation or clarification when:
      a. answer may be obtained by observations at the Site; or
      b. required information is clearly indicated in the Contract Documents; or
      c. required information is included in industry standards referenced in the Contract Documents or Supplier's instructions that are consistent with the Contract Documents; or
      d. are reasonably inferable from any of foregoing.

5. CONTRACTOR shall have sole financial responsibility for requests for interpretations or clarifications that are submitted late, out of sequence, or that are unnecessary.

B. Procedure.
   1. Transmit requests for interpretation in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Include with each request for interpretation a separate letter of transmittal.
   2. ENGINEER will provide timely review of requests for interpretation. Allow sufficient time for review and response.
   3. ENGINEER will maintain log of requests for interpretation. Upon request, copy of log will be transmitted to CONTRACTOR
   4. ENGINEER's response to requests for interpretation will be transmitted in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Each response to a request for interpretation will include a separate letter of transmittal.
   5. ENGINEER's written response to each request for interpretation will be distributed to:
      a. CONTRACTOR.
      b. DEPARTMENT.
      c. ENGINEER.
   6. If ENGINEER requests additional information to make an interpretation, CONTRACTOR requesting the interpretation shall transmit the information requested within ten days, unless ENGINEER allows additional time, via correspondence referring to request for interpretation number.
   7. Interpretations that One or Both Parties Believes Entails a Change to the Contract:
      a. If CONTRACTOR believes that a change in the Contract Price or Contract Times or other change to the Contract is required as a result of ENGINEER's interpretation, so advise ENGINEER in writing before proceeding with the Work associated with the request for interpretation.
      b. If, after this initial communication, CONTRACTOR believes that change in Contract Price, Contract Times, both, or other relief with respect to the terms of the Contract is necessary, recourse shall be in accordance with the Contract Documents.

C. Preparation of Requests for Interpretation:
   1. Prepare each request for interpretation on the "Request for Interpretation" form included with this Section, or other form acceptable to ENGINEER.
   2. Number each request for interpretation as follows: Numbering system shall be the Contract number and designation followed by a hyphen and three-digit sequential number. Example: First request for interpretation on the general contract for project titled, "Contract A15" would be, "RFI No. A15-GC-001".
   3. In space provided on form, describe the interpretation requested. Provide additional sheets as necessary. Include text and sketches as required in sufficient detail to describe the need for an interpretation.

4. When applicable, request for interpretation shall include CONTRACTOR's recommended resolution.

1.3 MINOR CHANGES IN THE WORK AND FIELD ORDERS

A. General:
   1. Field Orders, when required, will be initiated and issued by ENGINEER.
   2. Field Orders authorize minor variations in the Work but do not change the Contract Price or Contract Times.
   3. Field Orders will be in the form of Engineers Joint Contract Documents Committee document EJCDC® C-942, "Field Order".
   4. ENGINEER will maintain a log of Field Orders issued.

B. Procedure.
   1. Field Orders will be transmitted in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Each Field Order will include a separate letter of transmittal.
   2. Each Field Order will be distributed to:
      a. CONTRACTOR.
      b. DEPARTMENT.
      c. ENGINEER.
   3. Field Orders that One or Both Parties Believes Entails a Change to the Contract Price or Contract Times:
      a. If CONTRACTOR or DEPARTMENT believes that a change in the Contract Price or Contract Times or other change to the Contract is required as a result of a Field Order, so advise ENGINEER in writing before proceeding with the Work associated with the Field Order in accordance with General Conditions, Section VIII, Article 8.10.
      b. If, after this initial communication, CONTRACTOR believes that change in Contract Price, Contract Times, both, or other relief with respect to the terms of the Contract is necessary, recourse shall be in accordance with the General Conditions.
   4. If the Field Order is unclear, submit request for interpretation.

1.4 PROPOSED CHANGE ORDER REQUEST

A. General:
   1. Proposed Change Order Request may be initiated by ENGINEER or DEPARTMENT in accordance with General Conditions, Article 9.1
   2. Proposed Change Order Request are for requesting the effect on the Contract Price and the Contract Times and other information relative to contemplated changes in the Work. Proposed Change Order Request do not authorize changes or variations in the Work, and do not change the Contract Price or Contract Times or terms of the Contract.
   3. Proposed Change Order Request will be furnished using the "Proposed Change Order Request" form included with this Section.

B. Procedure.
   1. Proposal Change Order Request will be transmitted in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Each Proposed Change Order Request will include a separate letter of transmittal.
   2. Each signed Proposed Change Order Request will be transmitted to:
      a. CONTRACTOR.
      b. DEPARTMENT.
      c. ENGINEER.
   3. Transmit request for interpretation to clarify conflicts, errors, ambiguities, and discrepancies in Proposal Request.
   4. Upon receipt of Proposed Change Order Request, CONTRACTOR shall prepare and transmit to ENGINEER a Prosed Change Order, in accordance with the Contract Documents, for the proposed Work described in the Proposed Change Order Request.

1.5 PROPOSED CHANGE ORDERS

A. General.
   1. Prepare and transmit written Proposed Change Order to ENGINEER in response to each Proposed Change Order Request; or when CONTRACTOR believes a change in the Contract Price or Contract Times or other change to the terms of the Contract is required; or to appeal an initial decision by ENGINEER concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the General Conditions.

B. Procedure.
   1. Prepare and transmit Proposed Change Order within time limits indicated in the General Conditions, as may be modified by the Supplementary Conditions.
   2. Transmit Change Proposals in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Include with each Proposed Change Order all required supporting documentation and a separate letter of transmittal.
   3. ENGINEER's Review and Requests for Interpretation:
      a. ENGINEER will review and act on each Proposed Change Order in accordance with, and within the time limits indicated in, the General Conditions, as may be modified by the Supplementary Conditions.
      b. When, ENGINEER requests additional information to render a decision, submit required information within three days of receipt of ENGINEER's request, unless ENGINEER allows more time. Submit the required information via correspondence that refers to the specific Proposed Change Order number.
      c. DEPARTMENT shall transmit to ENGINEER such comments, if any, that DEPARTMENT has on the Change Proposal, within 30 days of DEPARTMENT's receipt of the Proposed Change Order.

d. ENGINEER will render a written decision on the Proposed Change Order.
e. ENGINEER's response to Proposed Change Order will be transmitted in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section, the General Conditions, and the Supplementary Conditions.

4. ENGINEER's response to each Proposed Change Order will be distributed to:
   a. CONTRACTOR.
   b. DEPARTMENT
   c. ENGINEER.
5. If Proposed Change Order is recommended for approval by ENGINEER and is approved by DEPARTMENT, an Approved Change Order will be issued or, when applicable, an appropriate use of contingency allowance will be authorized by DEPARTMENT.
6. If parties do not agree on terms for the change, DEPARTMENT or CONTRACTOR may file a Claim against the other, in accordance with the General Conditions, as may be modified by the Supplementary Conditions.

C. Preparation of Change Proposals:
1. Each Proposed Change Order shall be submitted on the "Proposed Change Order" form included with this Section, or other form acceptable to ENGINEER.
2. Number each Proposed Change Order as follows: Numbering system shall be the Contract number and designation followed by a hyphen and three-digit sequential number. Example: First Change Proposal for the general contract for project named "Contract A15" would be, " Proposed Change Order No. A15-GC-001".
3. In space provided on Change Proposal form:
   a. Describe scope of each proposed change. Include text and sketches on additional sheets as required to provide detail sufficient for ENGINEER's review and response. If a change item is submitted in response to Proposed Change Order Request, write in as scope, "In accordance with Proposed Change Order Request No." followed by the Proposal Request number. Submit written clarifications, if any, to scope of change.
   b. Submit justification for each proposed change. If change is in response to Proposed Change Order Request, write in as justification, "In accordance with Proposed Change Order Request No." followed by the proposed change order request number.
   c. List the total change in the Contract Price and Contract Times for each separate change item included in the Proposed Change Order Request.
4. Unless otherwise directed by ENGINEER, attach to the Proposed Change Order detailed breakdowns of pricing (Cost of the Work and CONTRACTOR's fee) including:
   a. List of Work tasks to accomplish the change.
   b. For each task, labor cost breakdown including labor classification, total hours per labor classification, and hourly cost rate for each labor classification.

c. Construction equipment and machinery to be used, including manufacturer, model, and year of manufacture, and number of hours for each.
d. Detailed breakdown of cost of materials and equipment to be incorporated into the Work, including quantities, unit costs, and total cost, with Supplier's written quotations.
d. Breakdowns of the Cost of the Work and fee for Subcontractors, including labor, construction equipment and machinery, and materials and equipment incorporated into the Work, other costs, and Subcontractor fees (e.g., overhead and profit).
f. Breakdown of other costs eligible, in accordance with the General Conditions and the Supplementary Conditions under "Cost of the Work" provisions.
g. Other information required by ENGINEER.
h. CONTRACTOR's fees applied to eligible CONTRACTOR costs and eligible Subcontractor costs.
i. The change order backup shall be completed using the NYS Standard MURK 2018 (or current) format. DEPARTMENT will provide electronic version for CONTRACTOR use.

1.6 APPROVED CHANGE ORDERS

A. General:
1. Approved Change Orders will be recommended by ENGINEER (when required by the General Conditions),and will be approved and signed by DEPARTMENT and CONTRACTOR, to authorize additions, deletions, or revisions to the Work, or changes to the Contract Price or Contract Times.
2. Approved Change Orders will be in the form of EJCDC® C-941, "Change Order".

B. Procedure.
1. Approved Change Orders for signature by CONTRACTOR will be transmitted in accordance with Section 01 31 26, Electronic Communication Protocols, and requirements of this Section. Each Change Order will include a separate letter of transmittal. CONTRACTOR shall print three originals of Approved Change Order for CONTRACTOR's signature.
2. CONTRACTOR shall promptly sign each original Approved Change Order and, within five days of receipt, return all originals to ENGINEER.
3. ENGINEER will sign each original Approved Change Order and forward them to DEPARTMENT.
4. After approval and signature by DEPARTMENT, original Approved Change Orders will be distributed as indicated below.
5. Original, signed Approved Change Orders will be distributed as follows:
a. CONTRACTOR: One original.
b. DEPARTMENT: One original.
c. ENGINEER: One original.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 ATTACHMENTS

A. The forms listed below, following this Section's "End of Section" designation, are part of this Specifications Section:
   1. Request for Interpretation form (one page).
   2. Proposed Change Order Request (one page).
   3. Proposed Change Order (one page).
   4. Field Order EJCDC C-942

+ + END OF SECTION + +

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REQUEST FOR INTERPRETATION

DEPARTMENT:

_____

Project Name: _____

Contractor: _____ RFI No. _____

Date Transmitted: _____ Date Received: _____

Date Response Requested: _____ Date Response Transmitted: _____

Subject: _____

Specification Section and Paragraph: _____

_____

Drawing References: _____

INTERPRETATION REQUESTED:

Signature: _____ Date: _____

ENGINEER'S RESPONSE:

Signature: _____ Date: _____

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NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Field Order No. _____

Date of Issuance:

Site Name: Former Utica City Dump

Owner: NYS**DEC**

Owner's Contract No.:

Contractor:

Site No.:

Engineer: **Ramboll**

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 9.2, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit written notification in accordance with Paragraph 8.10 within 3 days and provide documentation within 15 days in a Proposed Change Order to Engineer.

Reference: _____ _____

Specification(s) Drawing(s) / Detail(s)

Description:

Attachments:

ISSUED:	RECEIVED:
By: _____	By: _____
Engineer (Authorized Signature)	Contractor (Authorized Signature)
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: DEC Project Manager and DEC Designated Representative

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[insert logo of issuing entity] [insert name, address, phone number of issuing entity]

Site Name:	**PCO No.:**
Site Location:	**Date Issued:**
	Site No.:
Owner:	**Contract No.:**
Contractor:	**Associated RFI or FO:**
	☐ **RFI No.: ____** ☐ **FO No.:** ☐ **None**

PROPOSAL

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 8, 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.

Description of Change:

INSTRUCTIONS - Provide a description of the change in sufficient detail to specify the additional work contemplated and how measurement for payment will be made. Refer to paragraph 10.3 of the General Conditions (for example, if time and materials is contemplated indicate herein). Spectifications and drawings should be attached as appropriate.

Reason for Change:

INSTRUCTIONS - Provide an explanation why the change to the orginal Contract Documents is necessary

	Associated Bid Item:
☐ ☐ ☐ ☐	**Attachments:** ☐ **Yes** ☐ **No** If yes, describe: **Relevant Contract Documents:** Specification Section: Drawing No.: Detail:

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. 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.

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.*

Cost and Time Documentation required: The submission shall account for the requirements of this proposed change order, Article 10 - Change of Contract Price or Time and Article 11 - Unit Price Work and Cash Allowances of the General Conditions. Proposed changes of contract time will be supported by a revised project schedule.

Differing site conditions: No claim by Contractor under paragraph 3.11 of the General Conditions will be allowed unless: 1) Contractor has given the written 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.

Audit; Access to Records: 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.

Engineer's Review: Costs associated with Engineer's review and return of cost documentation shall be borne by Contractor after the Engineer's second review.

Issued By:

Signature **Date**

CONTRACT TITLE
Site No.
Contract No.
Change Order No.

Change Order Amount: $0.00 Date of Issue:

Contractor:

Engineer:

This Change Order is comprised of number (#) items described below:

I. CHANGE ORDER ITEMS: (as many as needed)

A. Item Name or Brief Description:

Description of Change: Text

Drawing Reference: Text

Contract Pay Item: Text

Reason for Change: Text

Cost: The cost of this Change Order Item is $0.00.

B. Item Name and Brief Description:

Description of Change: Text

Drawing Reference: Text

Contract Pay Item: Text

Reason for Change: Text

Cost: The cost of this Change Order Item is $0.00.

Confidential

II. CHANGE ORDER COST SUMMARY:

Item A: Description	$0.00
Item B:	
Item C:	
Total:	$0.00

III. CHANGE IN CONTRACT PRICE:

Original Contract Price:	$0.00
Net Increase/Decrease in Contract Price Due to Prior Change Order(s):	$0.00
Net Increase/Decrease in Contract Price Due to This Change Order (No. X):	$0.00
New Contract Price Including This Change Order:	$0.00

IV. CHANGE IN CONTRACT TIME:

Contract Execution Date: **Month, DD, YYYY**

	Calendar Days	Substantial Completion Date	Final Completion Date
Original Contract Completion Time/Date:	x/x		
Net Change of Contract Time Due to Prior Change Order(s)	x /x		
Net Change of Contract Time Due to This Change Order (No. X)	x / x		
New Contract Completion Date	x /x		

It is understood and agreed that, unless expressly so stated above, the work herein authorized will not extend the time for the completion of the contract.

It is understood and agreed that this change order represents full and complete compensation for all work described herein.

This work is to be performed in accordance with the terms of the contract and original plans and specifications, except as herein modified. It is understood and agreed that this order shall be deemed executory only to the extent of moneys available and no liability shall be incurred by the state beyond the moneys available for the purpose.

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IN WITNESS WHEREOF, this Change Order has been duly executed by the parties hereto on the day and year appearing following their respective signatures.

Agency Certification: "In addition to the acceptance of this Change Order, I also certify that original copies of this signature page will be attached to all other exact copies of this Change Order."

CONTRACTOR SIGNATURE
By:
Print Name:
Title:
Dated:

DEPARTMENT SIGNATURE
By:
Print Name:
Title:
Dated:

Contractor Acknowledgement

State of _____)
) ss.:
County of _____)

On the _____day of _____ in the year _____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____ Notary Public

COMPTROLLER SIGNATURE
Approved: Thomas P. DiNapoli State Comptroller
Dated:

Confidential

SECTION 01 29 73

SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall prepare and submit to ENGINEER for acceptance a Schedule of Values that allocates cost to each item of the Work. Schedule of Value list of line items shall correspond to each aspect of the Work, established in Section III, Article 12, Section V, Contract Bid Form and Section VII, Measurement and Payment.
   2. Upon request of ENGINEER, support values with data that substantiate their correctness.
   3. Submit preliminary Schedule of Values to ENGINEER for initial review. CONTRACTOR shall incorporate ENGINEER's comments into the Schedule of Values and resubmit to ENGINEER. ENGINEER may require corrections and re-submittals until Schedule of Values is acceptable.
   4. Schedule of Values may be used as a basis for negotiating price of changes, if any, in the Work.
   5. Schedule of Values and the Progress Schedule updates specified in Section 01 32 16, Progress Schedule, will be basis for preparing each Application for Payment.

1.2 SUBMITTALS

A. Informational Submittals: Submit the following:
   1. Submit to ENGINEER Schedule of Values in the form and quantity required in Section 01 33 00, Submittal Procedures, and in accordance with Section 01 31 26, Electronic Communication Protocols.
   2. Content of Schedule of Values submittals shall be in accordance with Article 1.3 of this Section.
   3. Timing of Submittals:
      a. Submit preliminary Schedule of Values within ten days following the date that the Contract Times commence running in accordance with the Notice to Proceed.
      b. Submittal of the Schedule of Values for acceptance by ENGINEER shall be in accordance with the General Conditions, Articles 1.4 and 1.6 a. ENGINEER will not accept Applications for Payment without an acceptable Schedule of Values.
      c. When required by ENGINEER, promptly submit updated Schedule of Values to include cost breakdowns for changes in the Contract Price.

1.3 SCHEDULE OF VALUES FORMAT AND CONTENT

A. Organization and Major Elements of Schedule of Values
   1. Prepare Schedule of Values on the "progress estimate" or "continuation sheets", as applicable, of the Application for Payment form.

   2. Organization in Accordance with General Conditions Section V, Bid Form and Section VII, Measurement and Payment:
      a. Organize the Schedule of Values by the Bid Schedule of Values.
      b. Label each row in the Schedule of Values with the appropriate Bid Item number. Include an amount for each row in the Schedule of Values.
      c. List sub-items of major items as identified in Section VII, measurement and payment for each item on the Bid Form.
   3. Include in Schedule of Values unit price payment items with their associated quantity. Provide in the Schedule of Values detailed breakdown of labor, equipment, materials and other direct costs (ODCs) for each unit prices when required by ENGINEER.

B. Requirements for preliminary Schedule of Values and Schedule of Values are:
   1. Subcontracted Work:
      a. Schedule of Values shall show division of Work between CONTRACTOR and Subcontractors.
      b. Line items for Work to be done by Subcontractor shall include the word, "(SUBCONTRACTED)".
   2. Apportionment between Materials and Equipment, and Installation:
      a. Schedule of Values shall include breakdown of costs for materials and equipment, installation, and other costs used in preparing the Bid by CONTRACTOR and each Subcontractor.
      b. List purchase and delivery costs for materials and equipment for which CONTRACTOR may apply for payment as stored materials, when required by the ENGINEER.
   3. Sum of individual values shown on the Schedule of Values shall equal the total of associated payment item. Sum of payment item totals in the Schedule of Values shall equal the Contract Price.
   4. Overhead and Profit: Include in each line item a directly proportional amount of CONTRACTOR's overhead and profit. Do not include overhead and profit as separate item(s).
   5. Include separate line item for each work item under both lumps sum and unit price items in accordance with Section VII, Measurement and Payment.
   6. Project Record Documents:
      a. Include in the Schedule of Values a line item with appropriate value for Project record documents.
      b. If adequate record documents are maintained, up to 50 percent of the value of the record documents line item will be eligible for payment, spread evenly over those progress payments in which construction at the Site is performed.

c. Remainder of Project record documents line item will be eligible for payment when complete record documents are submitted in accordance with the General Conditions. If record documents submitted are unsatisfactory to ENGINEER, amount may be reduced via set-offs in accordance with the Contract Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 31 19.13

PRE-CONSTRUCTION CONFERENCE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. A pre-construction conference will be held for the Project in accordance with General Conditions, Section VIII, Article 1.2.
   2. CONTRACTOR shall attend the conference prepared to discuss all items on the pre-construction conference agenda.
   3. ENGINEER will distribute an agenda, preside at conference, and prepare and distribute minutes to all conference participants and others as requested.

B. Purpose of Pre-construction Conference:
   1. Purpose of conference is to designate responsible personnel, establish working relationships, discuss preliminary schedules submitted by CONTRACTOR, and formalize procedures for the preparation and review administrative and procedural requirements for the Project.
   2. Review and comply with the requirements of the General Conditions.
   3. Review CONTRACTOR's plans for complying with the requirements of Article 5 of the General Conditions.
   4. Discuss any conflicts, errors or discrepancies that CONTRACTOR has discovered by review of the Contract Documents.
   5. Unless otherwise indicated in the Contract Documents or otherwise agreed to by the entities involved, Site mobilization meeting will be part of the pre-construction conference.

1.2 PREPARATION FOR PRE-CONSTRUCTION CONFERENCE

A. Date, Time, and Location:
   1. Conference will be held no later than twenty calendar days after the effective Date of the Agreement, but before the CONTRACTOR starts the Work.
   2. Department will establish the date, time, and location of conference and notify the interested and involved entities.

B. CONTRACTOR shall furnish information required and contribute appropriate items for discussion at the pre-construction conference.

C. Handouts for Pre-Construction Conference:
   1. CONTRACTOR shall bring to the conference the following, with sufficient number of copies for each attendee:
      a. Preliminary Progress Schedule, as submitted to ENGINEER.
      b. Preliminary Schedule of Submittals, as submitted to ENGINEER.

c. Preliminary Schedule of Values, as submitted to ENGINEER.
d. Listing of identity and general scope of Work or supply of planned Subcontractors and Suppliers.
e. List of emergency contact information.

1.3 REQUIRED ATTENDEES

A. Representative of each entity attending the conference shall be authorized to act on that entity's behalf.

B. CONTRACTOR Attendance: Conference shall be attended by CONTRACTOR's:
1. Project manager.
2. Site superintendent
3. Site Health and Safety Officer
4. Project managers for major Subcontractors, and major equipment Suppliers as CONTRACTOR deems appropriate.

C. Other attendees will be representatives of:
1. DEPARTMENT.
2. ENGINEER.
3. Authorities having jurisdiction over the Work, if available.
4. Utility owners, as applicable.
5. Others as requested by DEPARTMENT, CONTRACTOR, or ENGINEER.

1.4 AGENDA

A. Preliminary Agenda: Be prepared to discuss in detail the topics indicated below. Revisions, if any, to the agenda below will be furnished to required attendees prior to the pre-construction conference.
1. Procedural and Administrative:
a. Personnel and Teams:
1) Designation of roles and personnel.
2) Limitations of authority of personnel, including personnel who will sign Contract modifications and make binding decisions.
3) Subcontractors and Suppliers in attendance.
4) Authorities having jurisdiction.
b. Procedures for communications and correspondence, including electronic communication protocols.
c. Copies of the Contract Documents and availability.
d. Subcontractors and Suppliers.
1) Lists of proposed Subcontractors and Suppliers.
e. The Work and Scheduling:
1) General scope of the Work.
2) Contract Times, including Milestones (if any).
3) Phasing and sequencing.
4) Preliminary Progress Schedule.
5) Critical path activities.

f. Safety:
    1) Responsibility for safety.
    2) Contractor's safety representative.
    3) Emergency procedures and accident reporting.
    4) Emergency contact information.
    5) Confined space entry permits.
    6) Hazardous materials communication program.
    7) Impact of Project on public safety.
g. Permits.
h. Review of insurance requirements and insurance claims.
i. Coordination:
    1) Project coordination, and coordination among contractors.
    2) Construction coordinator.
    3) Coordination with DEPARTMENT's operations.
    4) Progress meetings.
    5) Preliminary Schedule of Submittals.
    6) Procedures for furnishing and processing submittals.
    7) Work not eligible for payment until submittals are approved or accepted (as required).
    8) Construction photographic documentation.
k. Substitutes and "Or-Equals":
    1) Product options.
    2) Procedures for proposing "or-equals".
    3) Procedures for proposing substitutes.
l. Contract Modification Procedures
    1) Requests for interpretation
    2) Written clarifications
    3) Field Orders
    4) Proposal Requests
    5) Change Proposals
    6) Work Change Directives.
    7) Change Orders.
    8) Procedure for Claims and dispute resolution
m. Payment:
    1) DEPARTMENT's Project financing and funding, as applicable.
    2) DEPARTMENT's tax-exempt status.
    3) Preliminary Schedule of Values
    4) Procedures for measuring for payment.
    5) Retainage.
    6) Progress payment procedures.
    7) Prevailing wage rates and payrolls.
n. Testing and inspections, including notification requirements.
o. Disposal of demolition materials.
p. Record documents.
q. Preliminary Discussion of Contract Closeout:
    1) Procedures for Substantial Completion.
    2) Contract closeout requirements.

3) Correction period.
4) Duration of bonds and insurance.

2. Site Mobilization (if not covered in a separate meeting):
   a. Working hours and overtime.
   b. Field offices, storage trailers, and staging areas.
   c. Temporary facilities.
   d. Temporary utilities and limitations on utility consumption (where applicable).
   e. Utility company coordination (if not done as a separate meeting).
   f. Access to Site, access roads, and parking for construction vehicles.
   g. Maintenance and protection of traffic.
   h. Use of Site and premises.
   i. Protection of property.
   j. Security.
   k. Temporary controls, such as sediment and erosion controls, noise controls, dust control, storm water controls, and other such measures.
   l. Site barriers and temporary fencing.
   m. Storage of materials and equipment.
   n. Reference points and benchmarks; surveys and layouts.
   o. Site maintenance during the Project.
   p. Cleaning and removal of trash and debris.
   q. Restoration.
3. General discussion and questions.
4. Next meeting.
5. Site visit, if required.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 31 19.23

PROGRESS MEETINGS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Progress meetings will be held throughout the Project. CONTRACTOR shall attend each progress meeting prepared to discuss in detail all items on the agenda.
   2. ENGINEER will preside at progress meetings and will prepare and distribute minutes of progress meetings to all meeting participants and others as requested.

1.2 PREPARATION FOR PROGRESS MEETINGS

A. Date and Time:
   1. Regular Meetings: Bi-weekly, occurring twice per month, on a day and time agreeable to DEPARTMENT, ENGINEER, and CONTRACTOR.
   2. Other Meetings: Weekly meetings may be requested in accordance with the General Conditions, Section VIII, Article 5.36, to discuss and/or resolve matters concerning various elements of the Work.

B. Location:
   1. CONTRACTOR's field office at the Site or other location mutually agreed upon by DEPARTMENT, CONTRACTOR, and ENGINEER.

C. Handouts:
   1. CONTRACTOR shall bring to each progress meeting not less than eight copies of each of the following:
      a. List of Work accomplished since the previous progress meeting.
      b. Up-to-date Progress Schedule.
      c. Up-to-date Schedule of Submittals.
      d. Health and Safety/Community Air Monitoring Summary.
      e. Quality control testing including analytical testing Summary.
      f. Detailed "look-ahead" schedule of Work planned through the next progress meeting, with specific starting and ending dates for each activity, including shutdowns, deliveries of important materials and equipment, Milestones (if any), and important activities affecting the DEPARTMENT , Project, and Site.
      g. When applicable, list of upcoming, planned time off (with dates) for personnel with significant roles on the Project, and the designated contact person in their absence.

2. Engineer shall bring to each progress meeting not less than eight (-8-) copies of each of the following:
    a. Up-to-date Schedule of Submittals including identification of outstanding critical submittals.
    b. Up-to-date Status tracking logs for RFI, PCOs, and Field Orders.

1.3 REQUIRED ATTENDANCE

A. Representatives present for each entity shall be authorized to act on that entity's behalf.

B. Required Attendees:
1. CONTRACTOR:
    a. Project manager.
    b. Site superintendent.
    c. Safety representative.
    d. When needed for the discussion of a particular agenda item, representatives of Subcontractors and Suppliers shall attend meetings.
2. Construction coordinator (if any).
3. ENGINEER:
    a. Project manager or designated representative
    b. Others as required by ENGINEER.
4. Department 's representative(s), as required.
5. Testing and inspection entities, as required.
6. Others, as appropriate.

1.4 AGENDA

A. Preliminary Agenda: Be prepared to discuss in detail the topics listed below. Revised agenda, if any, will be furnished to CONTRACTOR prior to first progress meeting. Progress meeting agenda may be modified by ENGINEER during the Project as required.
1. Safety
2. Review, comment, and amendment (if required) of minutes of previous progress meeting.
3. Review of progress since the previous progress meeting.
4. Planned progress through next progress meeting.
5. Review of Progress Schedule
    a. Contract Times, including Milestones (if any)
    b. Critical path.
    c. Schedules for fabrication and delivery of materials and equipment.
    d. Corrective measures, if required.
6. Submittals:
    a. Review status of critical submittals.
    b. Review revisions to Schedule of Submittals.
7. Contract Modifications (Status Tracking Log as maintained by ENGINEER)
    a. Requests for Interpretation.

b. Field Orders.
c. Proposed Change Orders.
d. Approved Change Orders.
e. Claims.

8. Applications for progress payments status
8. Problems, conflicts, and observations.
9. Quality standards, testing, and inspections.
10. Coordination between parties.
11. Site management issues, including access, security, maintenance and protection of traffic, maintenance, cleaning, and other Site issues.
12. Permits.
13. Construction photographic documentation, as applicable.
14. Record documents status, as applicable.
15. Punch list status, as applicable.
16. Other business.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01 31 26

ELECTRONIC COMMUNICATION PROTOCOLS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section establishes the procedures with which the parties will comply regarding transmission or exchange of electronic data for the Project.
   2. CONTRACTOR shall provide labor, materials, tools, equipment, services, utilities, and incidentals shown, specified, and required for complying with this Section throughout the Project.
   3. This Section does not supersede the General Conditions, as may be modified by the Supplementary Conditions, regarding transmitting of the Contract Documents to CONTRACTOR after the Effective Date of the Contract.
   4. In addition to the requirements of this Section, comply with requirements for exchange of electronic data in the following:
      a. Section 01 32 16, Progress Schedule.
      b. Section 01 32 33, Photographic Documentation.
      c. Section 01 33 00, Submittal Procedures.
      d. Section 01 78 39, Project Record Documents.

B. Coordination:
   1. CONTRACTOR shall require all Subcontractors and Suppliers to comply with the electronic communication protocols established in this Section.

C. Related Sections:
   1. Section 01 32 16, Progress Schedule.
   2. Section 01 32 33, Photographic Documentation.
   3. Section 01 33 00, Submittal Procedures.
   4. Section 01 78 39, Project Record Documents.

1.2 TERMINOLOGY

A. The following words or terms are not defined but, when used in this Section, have the following meaning:
   1. “Electronic data” means information, communications, drawings, or designs created or stored for the Project in electronic or digital form.
   2. “Confidential information” means electronic data that the transmitting party has designated as confidential and clearly marked with an indication such as “Confidential”, “Business Proprietary”, or similar designation.
   3. “Written” or “in writing” means any and all communications, including without limitation a notice, consent, or interpretation, prepared and sent to an address provided in the Contract Documents or otherwise agreed upon by

the parties and ENGINEER using a transmission method sent forth in this Section that allows the recipient to print or store the communication. Communications transmitted electronically are presumed received when sent in conformance with this Paragraph 1.2.A.3.

1.3 TRANSMISSION OF ELECTRONIC DATA

A. Transmission of electronic data constitutes a warrant by the transmitting party to the receiving party that the transmitting party is one or more of the following:
   1. The copyright owner of the electronic data.
   2. Has permission from the copyright owner to transmit the electronic data for its use on the Project.
   3. Is authorized to transmit confidential information.

B. Receiving party agrees to keep confidential information confidential and not to disclose it to another person except to (1) its employees, (2) those who need to know the content of the confidential information to perform services or construction solely and exclusively for the Project, or (3) its Consultants, Contractors, Subcontractors, and Suppliers whose contracts include similar restrictions on the use of electronic data and confidential information.

C. Transmitting party does not convey any right in the electronic data or in the software used to generate or transmit such data. Receiving party may not use electronic data unless permission to do so is provided in the Contract Documents, or in a separate license.

D. Unless otherwise granted in a separate license, receiving party's use, modification, or further transmission of electronic data, as provided the Contract Documents, is specifically limited to the design and construction of the Project in accordance with this Section, and nothing contained in this Section conveys any other right to use the electronic data for any other purpose.

E. Means of Transmitting Electronic Data: Unless otherwise indicated in Table 01 31 26-A of this Section or elsewhere in the Contract Documents, transmission of electronic data for the Project will generally be via:
   1. E-mail and files attached to e-mail. Maintain e-mail system capable of transmitting and receiving files not less than 20 megabytes (MB) file size.

1.4 ELECTRONIC DATA PROTOCOLS

A. Comply with the data formats, transmission methods, and permitted uses set forth in Table 01 31 26-A, Electronic Data Protocol Table, below, when transmitting or using electronic data on the Project. Where a row in the table has no indicated means of transmitting electronic data, use for such documents only printed copies transmitted to the receiving party via appropriate delivery method.

TABLE 01 31 26-A
ELECTRONIC DATA PROTOCOL TABLE (E-MAIL ATTACHMENTS)

Electronic Data	Data Format	Transmitting Party	Transmission Method	Receiving Party	Permitted Uses	Notes
1.4.A.1. Project communications						
General communications & correspondence	EM, PDF	D, E, C	EM, EMA	D, E, C	R	
Meeting notices and agendas	EM, PDF	E	EM, EMA	D, C	R	
Meeting minutes	PDF	E	EM, EMA	D, C	R	
1.4.A.2. Contractor's submittals to Engineer						
Shop Drawings	PDF	C	EMA	E	M (1)	(1)
Product data	PDF	C	EMA	E	M (1)	(1)
Informational and closeout submittals:	PDF	C	EMA	E	M (1)	(1)
Documentation of delivery of maintenance materials submittals	PDF	C	EMA	E	M (1)	
1.4.A.3. Engineer's return of reviewed submittals to Contractor						
Shop Drawings	PDF	E	EMA	O., C	R	
Product data	PDF	E	EMA	O., C	R	
Informational and closeout submittals:	PDF	E	EMA	O., C	R	
Documentation of delivery of maintenance materials submittals	PDF	E	EMA	O. C	R	
1.4.A.4. Contract Modifications Documents						
Requests for interpretation to Engineer	PDF	C, D	EMA	E	M (1)	(1)
Engineer's interpretations (RFI responses)	PDF	E	EMA	C, D	R	
Engineer's clarifications to Contractor	EM, PDF	E	EM, EMA	C, D	R	
Engineer's issuance of Field Orders	PDF	E	EMA	C, D	R	
Potential Change Orders	PDF	E, D	EMA	C	R	
Change Proposals – submitted to Engineer	PDF	C	EMA	D, E	S	
Change Proposals – Engineer's response	PDF	E	EMA	C, D		
Change Orders (for Contractor signature)	PDF	E	EMA	C	R	(2)
1.4.A.5. Applications for Payment						(3)
1.4.A.6. Claims and other notices						(4)
1.4.A.7. Closeout Documents						
Record drawings (As-Builts)	DWG and PDF	C	EMA	E, D	M (5)	(5)
Other record documents	PDF	C	EMA	E. D	M (5)	(5)
Contract closeout documents						

B. Key to Electronic Data Protocol Table:

Data Format:

EM .msg, .htm, .txt, .rtf, e-mail text
W .docx, Microsoft® Word 2007 or later
EX .xlsx, Microsoft® Excel 2007 or later
PDF .pdf. Portable Document Format
DWG .dwg. Autodesk AutoCAD 2013 drawing.

Transmitting Party:

D	DEPARTMENT
C	CONTRACTOR
E	ENGINEER

Transmission Method:

EM	Via e-mail
EMA	As an attachment to an e-mail transmission
CD	Delivered via compact disc
PW	Posted to Project website
FTP	FTP transfer to receiving FTP server

Receiving Party:

D	DEPARTMENT
C	CONTRACTOR
E	ENGINEER

Permitted Uses:

S	Store and view only
R	Reproduce and distribute
I	Integrate (incorporate additional electronic data without modifying data received)
M	Modify as required to fulfill obligations for the Project

Notes:

(1) Modifications by ENGINEER to CONTRACTOR's submittals and requests for interpretations are limited to printing out, marking-up, and adding comment sheets.

(2) May be distributed only to affected Subcontractors and Suppliers. Print out, sign document, and return executed ("wet") signatures to ENGINEER after Department Approval.

(3) Submit printed Applications for Payment with original ("wet") signatures.

(4) Submit notices, including Claims, in accordance with the notice provisions of the General Conditions.

(5) Submit record drawings in native CAD format indicated when CONTRACTOR has executed ENGINEER's standard agreement for release of electronic files. In addition, always submit record drawings as a PDF file. Comply with requirements of Section 01 78 39, Project Record Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01 32 16

PROGRESS SCHEDULE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Prepare and submit Progress Schedules in accordance with the General Conditions (as may be modified by the Supplementary Conditions) and this Section, unless otherwise accepted by ENGINEER.
   2. Maintain and update Progress Schedules. Submit updated Progress Schedules as specified in this Section unless otherwise directed by ENGINEER.
   3. ENGINEER's acceptance of the Progress Schedule, and comments or opinions concerning the activities in the Progress Schedule shall not control CONTRACTOR's independent judgment relative to means, methods, techniques, sequences, and procedures of construction. CONTRACTOR is solely responsible for complying with the Contract Times.

1.2 SUBMITTALS

A. Informational Submittals: Submit the following:
   1. Interim Schedule:
      a. Submit an interim schedule indicating CONTRACTOR's anticipated schedule for the Work for the first three (3) months in detail and for the remainder of the Work in summary form in accordance with Article 1.4 of the General Conditions.
   2. Progress Schedules:
      a. Submit preliminary Progress Schedule in accordance with the General Conditions, Section VIII, Article 1.6. Submit in accordance with Section 01 33 00, Submittal Procedures and Section 01 31 26, Electronic Communication Protocols.
      b. Preliminary Progress Schedule shall consist of a CPM Diagram and schedule narrative.
      c. After making revisions in accordance with ENGINEER's comments on the preliminary Progress Schedule, submit the Progress Schedule in accordance with the General Conditions. Submit in accordance with Section 01 33 00, Submittal Procedures. This schedule will constitute the Baseline Schedule.
      d. Bi-monthly (every two weeks) project schedules with a 2-week look ahead shall be submitted in Excel format.
      e. Submit updated Baseline Progress Schedule with schedule narrative as part of the monthly Contractor's Application for Payment. If a Progress Schedule remains unchanged from one payment application to the next, submit a written statement to that effect.

f. Furnish each Progress Schedule submittal with letter of transmittal complying with requirements of Section 01 33 00, Submittal Procedures, and specifically indicating the following:
   1) Listing of activities and dates that have changed since the previous Progress Schedule submittal.
   2) Discussion of problems causing delays, anticipated duration of delays, and proposed countermeasures.

3. Recovery Schedules: Submit in accordance with this Section, and other provisions of the General Conditions.
4. Accelerated Schedules may be submitted for in accordance with General Conditions Section VIII, Article 5.3.
5. Adjusted Project Schedules shall be submitted in accordance with General Conditions Section VIII, Article 5.6
6. If CONTRACTOR doesn't intend to perform Work on the date with the Contract Time commences, CONTRACTOR must notify the DEPARTMENT as soon as possible in writing when work will commence. An interim schedule shall be submitted in accordance with Section VIII, Article 1.4. Within 20 days after starting work at the site, an updated Baseline Project Schedule shall be provided to the ENGINEER for review.
7. ENGINEER reviewed project schedules shall be managed as Record Documentation.

1.3 PROGRESS SCHEDULE FORMAT AND CONTENT

A. Format:
   1. Type:
      a. Gantt chart prepared using software such as Microsoft Project 2007 or later edition, Oracle Primavera P6, Oracle Primavera Project Planner – P3, or similar software.
   2. Sheet Size: 11x17, unless otherwise accepted by ENGINEER.
   3. Time Scale: Indicate first date of each work week.
   4. Organization:
      a. Indicate on the separate Schedule of Submittals dates for submitting and reviewing Shop Drawings, Samples, and other submittals.
      b. Group deliveries of materials and equipment into a separate sub-schedule that is part of the Progress Schedule.
      c. Group construction into a separate sub-schedule (that is part of the Progress Schedule) by activity.
      d. Group critical activities that dictate the rate of progress (the "critical path") into a separate sub-schedule that is part of the Progress Schedule. Clearly indicate the critical path on the Progress Schedule. At minimum activities should align with Bid Form.
      e. Organize each sub-schedule item in accordance with the approved Schedule of Values.
   5. Activity Designations: Indicate title and related Specification Section number.
   6. Deliver schedules in both working file and PDF formats with the accompanying narrative.

B. Content: Progress Schedules shall indicate the following:
   1. Dates for shop-testing, as applicable.
   2. Delivery dates for materials and equipment to be incorporated into the Work.
   3. Dates for beginning and completing each phase of the Work by activity and by trade.
   4. Dates for start-up and check-out, field-testing, and instruction of operations and maintenance personnel.
   5. Dates corresponding to the Contract Times, and planned completion date associated with each Milestone (if any), Substantial Completion, and readiness for final payment.

C. Coordinate the Progress Schedule with the Schedule of Submittals.

D. 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.

E. Any float identified in the approved (or approved as noted) Baseline Schedule will be available for the project. The use of float shall be documented in each progress payment. If the 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 the DEPARTMENT 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 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 DEPARTMENT 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.

1.4 RECOVERY SCHEDULES

A. Recovery Schedules – General:
   1. When updated Progress Schedule indicates that the ability to comply with the Contract Times falls five or more days behind schedule, and the delay is within the control of CONTRACTOR, and there is no corresponding Change Order or Work Change Directive to support an extension of the Contract Times, CONTRACTOR shall prepare and submit a Progress Schedule demonstrating CONTRACTOR's plan to accelerate the Work to achieve compliance with the Contract Times ("recovery schedule") for ENGINEER's acceptance.
   2. Submit recovery schedule within five days after submittal of updated Progress Schedule where need for recovery schedule is indicated.

B. Implementation of Recovery Schedule:
   1. At no additional cost to DEPARMENT, do one or more of the following: furnish additional resources (additional workers, additional construction equipment, increased work hours or additional shifts, and other resources), provide suitable materials, expedite procurement of materials and equipment to be incorporated into the Work, and other measures necessary to complete the Work within the Contract Times.
   2. Upon acceptance of recovery schedule by ENGINEER, incorporate recovery schedule into the next Progress Schedule update.

C. Lack of Action:
   1. CONTRACTOR's refusal, failure, or neglect to take appropriate recovery action, or to submit a recovery schedule, shall constitute reasonable evidence that CONTRACTOR is not prosecuting the Work or separable part thereof with the diligence that will ensure completion within the Contract Times. Such lack of action shall constitute sufficient basis for Department to exercise remedies available to Department under the General Conditions.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 32 33

AERIAL AND GROUND PHOTOGRAPHIC and Video DOCUMENTATION

PART 1. GENERAL

1.1 SECTION INCLUDES

A. Scope:
   1. Furnish Unmanned Aircraft Systems (UAS), also known as a Drone, aerial imagery (photographic and video documentation, as required) and ground photographic documentation (still photographs only) for the following phases of construction:
      a. Pre-construction – prior to mobilization to Site, prior to land disturbance.
      b. Construction progress – frequency, as specified herein, including but not limited to, at Substantial Completion and at Final Completion.
      c. Final – following final demobilization.

B. Ground camera equipment specifications including camera resolution requirements and photograph submission requirements.

C. Drone aerial imagery equipment specifications including camera resolution requirements and aerial photograph and video submission requirements.

1.2 REFERENCES

A. DEC Policy CP-71 / Acquisition and Use of Unmanned Aircraft, March 29, 2021.

B. Low Altitude Authorization and Notification Capability (LAANC).

C. Federal Aviation Administration (FAA) rules and regulations.

D. Title 14 of Code of Federal Regulations (CFR) Part 107 – Small Unmanned Aircraft Systems.

E. EPA IT/IM Directive Policy – Unmanned Aircraft Systems (UAS) Policy, July 7, 2005.

F. National Wildfire Coordinating Group (NWCG) Aviation Mishap Response Guide and Checklist.

1.3 QUALITY ASSURANCE

A. CONTRACTOR personnel, or their Subcontractor, operating Unmanned Aircraft Systems (UAS or drone) shall be licensed in accordance with all applicable rules and regulations, including FAA and 14 CFR Part 107 requirements.

B. Personnel shall include the remote pilot in command (PIC), the visual observer (if one is used/required), and the person operating the flight controls of the UAS (if different from the PIC).

C. Personnel must maintain a visual line of sight (VLOS) to the aircraft operation throughout the entire flight with vision that is unaided by any device other than corrective lenses. The VLOS is established in order to:
   1. Know the UAS location;
   2. Monitor the UAS attitude, altitude, and direction of flight;
   3. Observe the airspace for other air traffic or hazards; and
   4. Ensure that the UAS does not endanger the life or property of another.

D. When a visual observer is used during the UAS operation, all of the following requirements must be met:
   1. The remote PIC, the person operating the flight controls of the UAS, and the visual observer must maintain effective communication with each other at all times.
   2. The remote PIC must ensure that the visual observer is able to see the UAS in the manner specified in paragraph (C) of this section.
   3. The remote PIC, the person operating the flight controls of the UAS, and the visual observer must coordinate to do the following:
      a. Scan the airspace where the UAS is operating for any potential collision hazard; and
      b. Maintain awareness of the position of the UAS through direct visual observation.

E. CONTRACTOR shall be responsible for documenting all activity at the Site in accordance with the following schedules:
   1. Ground photography shall be used to document the project activity and work progress on a frequency of twice per week (minimum), at the project milestones specified herein, and as directed by the DEPARTMENT or ENGINEER.
      a. Ground camera requirements:
         (1) Minimum of 10 megapixel still camera capability.
         (2) Full color photographs.
         (3) Ground camera aspect ratio shall be 4:3.
         (4) Ground camera settings shall be set according to site conditions, light conditions, and the subject being photographed.

(5) All ground photograph files shall be JPG format, unless otherwise requested by DEPARTMENT or ENGINEER.

2. Drone aerial imagery shall be used to document the project activity and work progress on a frequency of twice per month (minimum), at the milestones specified herein, and as directed by the DEPARTMENT or ENGINEER.
   a. UAS-mounted camera requirements:
      (1) Minimum of 10 megapixel still camera.
      (2) Drone camera settings shall be set according to site conditions, light conditions, and the subject being photographed.
      (3) Minimum of 1080p, 60 frames per second video camera.
      (4) All video files shall be MP4 or MOV formats, and all still photographs shall be JPG format unless otherwise requested by DEPARTMENT or ENGINEER.

F. CONTRACTOR shall be responsible to provide UAS equipment and accessories of appropriate capabilities (multiple battery packs, memory capacity, etc.) to perform the work and meet the requirements specified.

G. Photographic images and video shall be suitably staged and set up ("framed"), focused, and shall have adequate lighting to illuminate the Work and conditions that are the subject of the photograph.

H. Photographic images and video that are not well framed, focused, or do not have adequate lighting, at the discretion of the ENGINEER, shall be repeated by CONTRACTOR at no additional cost.

1.4 SUBMITTALS

A. Licenses and Certifications. Submit the following:
1. Remote Pilot Certificate (shall be current) from the FAA for all drone pilots proposed for the project, or for the certified Pilot in Command (PIC) overseeing the operation.
2. Insurance: must maintain Commercial Drone Liability Insurance with a minimum of $1,000,000 liability limit. Submit insurance certificate(s) demonstrating the proper current insurance limits and listing additional insured(s) according to the requirements of the Contract Documents.

B. Pre-Flight Submittals. Submit the following prior to each flight:
1. Documentation of authorization for each flight plan (as needed) through LAANC.

C. Pre-Flight Submittals required by CP-71:

1. CONTRACTOR shall complete the DEPARTMENT's Unmanned Aircraft System (UAS) Mission Planning Form and submit to the DEPARTMENT or ENGINEER.
2. CONTRACTOR shall allow for a DEPARTMENT review period of thirty (30) days and shall expect a response (approval or modifications required) in writing.
3. CONTRACTOR shall not proceed with any UAS work without written authorization from the DEPARTMENT.

D. Informational Submittals. Submit the following:
1. Pre-construction Photographic and Video Documentation: Submit acceptable pre-construction photographic and video documentation (digital files) prior to mobilizing to and disturbing the Site. Submit pre-construction photographic and video documentation not later than submittal of the first Application for Payment, unless other schedule for pre-construction photographic and video documentation as accepted by ENGINEER.
2. Construction Progress Photographic and Video Documentation: Submit acceptable construction progress photographic and video documentation (digital files) not less-often than monthly, unless otherwise agreed to by ENGINEER.
3. Qualifications Statements:
   a. Work shall be performed by a photographer and drone pilot meeting the requirements of this Specification and applicable regulations. The photographer and drone pilot shall be proficient in the type of work specified in this section. The CONTRACTOR shall provide individual(s) demonstrating the requisite proficiencies, to the satisfaction of the ENGINEER.

E. Closeout Submittals. Submit the following:
1. Final Photographic and Video Documentation: Submit acceptable photographic and video documentation prior to requesting the inspection by ENGINEER for Substantial Completion and Final Completion.
2. Photographic and Video Documentation shall be considered part of the Record Documentation. Photographic and Video Documentation shall not replace or supplant As-Built Drawings or other documentation required by Contract Documents.

F. CONTRACTOR shall host and maintain for the benefit of the ENGINEER and DEPARTMENT a secured, password enabled/encrypted sharepoint site or dropbox site for the secure transfer of electronic files.

PART 2. PRODUCTS

NOT USED.

PART 3. EXECUTION

3.1 DOCUMENTATION - GENERAL

A. The documentation specifications in this Part shall be used as default requirements in the absence of an alternate plan submitted by CONTRACTOR, and reviewed and approved by ENGINEER and/or DEPARTMENT.

B. All photography, video and drone flights shall be performed only by DEPARTMENT-approved professionals.

C. Digital Files of Videos and Photographs:

1. For each photograph, furnish high-quality digital image in "JPG" file format compatible with Microsoft Windows 10 and higher operating systems.
2. Image resolution shall be sufficient for clear, high-resolution prints. Minimum resolution shall be 10 megapixels.
3. For each video, furnish high-quality (minimum of 1080p, 60 frames per second) digital video file in MP4 or MOV file format, unless otherwise requested by DEPARTMENT or ENGINEER.
4. Do not imprint date and time in the images, unless specifically directed by DEPARTMENT or ENGINEER.
5. Electronic image filename shall describe the image; do not submit files with filenames automatically created by a digital camera. For example, an acceptable electronic filename would be, "Project Name Preconstruction 01.05.2022 Photo 1.jpg", or "Project Name Postconstruction 01.05.2022 Video 1.MP4".
6. Electronic folder names shall include the project, the date, etc. Do not include folders automatically created by a digital camera. For example, an acceptable folder name would be: "Project Name – Photos 04.06.2022", or "Project Name – Videos 04.06.2022".
7. Form of Digital Video and Photograph Submittals
   a. CONTRACTOR shall host and maintain a secured, password enabled/encrypted sharepoint site or dropbox site for the secure transfer of electronic files.
   b. Hardcopy photographs shall not be required unless specifically requested by DEPARTMENT or ENGINEER.
   c. Include in the sharepoint or dropbox site a file index and appropriately labeled and dated folders for each file transfer containing photographic and video documentation. File index shall list each folder, list the files in each folder by filename, and for each file:
      (1) Date(s) photographs were taken.
      (2) Name of Owner.
      (3) Name of the Site.
      (4) Project name.

(5) Photographer name and address.
(6) Drone pilot name and address (as applicable).

3.2 PRE-CONSTRUCTION PHOTOGRAPHIC AND VIDEO DOCUMENTATION

A. Ground Photography
1. Obtain and submit pre-construction photographic documentation to record Site conditions prior to construction. Photographs shall document all locations and areas of all work of the Contract, including all areas which will be disturbed by the work.
2. Pre-construction photographs are not part of the required number of construction progress photographs specified in Article 3.3 of this Section.
3. Furnish ground-based pre-construction video of all locations and areas of work of the Contract, including indoor and outdoor work areas, staging areas and all areas which will be disturbed by the work.
4. If disagreement arises on the condition of the Site and insufficient pre-construction photographic documentation was submitted prior to the disagreement, CONTRACTOR shall restore the conditions in question as directed by ENGINEER and to satisfaction of the DEPARTMENT.

B. Drone Aerial Imagery and Video
1. Take pre-construction aerial photographs at the same time that pre-construction ground photography is performed. The following aerial photographs shall be taken during the pre-construction aerial photography event, unless otherwise directed by ENGINEER or DEPARTMENT:
   a. Eight (8) photographs from altitude of 400 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W and NW with horizon visible in each photograph;
   b. Four (4) photographs from altitude of 400 feet, straight down covering each work area/quadrant of the Site;
   c. Eight (8) photographs from altitude of between 100 and 150 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W, and NW with horizon visible in each photograph; and
   d. Four (4) roof-height photographs (if structures are present), from center of property/Site, viewing N, E, S, and W. If structures are not present, altitude shall be 50 feet.
2. Take pre-construction video of the Site from an altitude of 100 feet, unless otherwise directed by ENGINEER or DEPARTMENT. Video shall be performed in a slow orbit of the Site covering all proposed work areas, including all areas which will be disturbed by the work.
3. Regulate the speed of the UAS during the flight to provide clear video. Video files that are not well framed or focused, resulting from the speed of the UAS, at the discretion of the ENGINEER, shall be repeated by CONTRACTOR at no additional cost.
4. When possible, aerial based video should be captured using autonomous flight controls to provide smooth and precise footage.

3.3 CONSTRUCTION PROGRESS PHOTOGRAPHIC AND VIDEO DOCUMENTATION

A. Ground Photography
   1. Progress Photographs:
      a. Approved photographer shall take photographs at the Site not less often than twice per week.
      b. Take not less than 10 photographs each time photographer is at the Site.
   2. Obtain and submit photographic documentation of each area of work as directed by ENGINEER at the time photographic documentation is taken.
   3. Take progress, ground-based video, when directed by ENGINEER or DEPARTMENT. Ground-based video shall be conducted in accordance with Article 3.2.A.3.
   4. Photographic documentation, documenting adequate completion of the work to the satisfaction of the ENGINEER, shall be required for Substantial Completion and for Final Completion.

B. Drone Aerial Imagery and Video
   1. Progress Photographs:
      a. Take photographs not less often than bi-weekly or twice per month, or as directed by ENGINEER or DEPARTMENT. The following photographs shall be taken during each aerial photography event, unless otherwise directed by ENGINEER or DEPARTMENT:
         (1) Eight (8) photographs from altitude of 400 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W and NW with horizon visible in each photograph;
         (2) Four (4) photographs from altitude of 400 feet, straight down covering each work area/quadrant of the Site;
         (3) Eight (8) photographs from altitude of between 100 and 150 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W and NW with horizon visible in each photograph; and
         (4) Four (4) roof-height photographs (if structures are present), from center of Site, viewing N, E, S, and W. If structures are not present, altitude shall be 50 feet.
   2. Progress Video:
      a. Take video of the Site, as directed by DEPARTMENT or ENGINEER, at a minimum of two (2) occasions, not including Pre-Construction and Final Documentation events.
      b. Video shall be taken from altitude of 100 feet – slow orbit of the Site covering all active work areas, unless otherwise directed by ENGINEER or DEPARTMENT.
      c. Regulate the speed of the UAS during the flight to provide clear video. Video files that are not well framed or focused, resulting from the speed of the UAS, at the discretion of the ENGINEER, shall be repeated by CONTRACTOR at no additional cost.

d. When possible, aerial based video should be captured using autonomous flight controls to provide smooth and precise footage.

3.4 FINAL PHOTOGRAPHIC AND VIDEO DOCUMENTATION

A. Final Ground Photographs:
   1. Take photographs at time and day acceptable to ENGINEER and following completion of all construction and demobilization. Work documented in final (record) photographs shall be generally complete, including all features of completed work and restored areas, as directed by the ENGINEER and DEPARTMENT.

B. Final Drone Aerial Imagery and Video
   1. Take final aerial photographs at the same time that final ground photography is performed. The following aerial photographs shall be taken during the final aerial photography event, unless otherwise directed by ENGINEER or DEPARTMENT:
      a. Eight (8) photographs from altitude of 400 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W and NW, with horizon visible in each photograph;
      b. Four (4) photographs from altitude of 400 feet, straight down covering each work area/quadrant of the Site;
      c. Eight (8) photographs from altitude of between 100 and 150 feet, from edge of property/Site facing center of Site, from N, NE, E, SE, S, SW, W and NW with horizon visible in each photograph; and
      d. Four (4) roof-height photographs (if structures are present), from center of Site, viewing N, E, S, and W. If structures are not present, altitude shall be 50 feet.
   2. Take final video of the Site from an altitude of 100 feet, or as approved by DEPARTMENT or ENGINEER. Video shall be performed in a slow orbit of the Site covering all final and restored work areas.

3.5 MISHAP REPORTING

A. The CONTRACTOR shall immediately notify the Department when an “Aircraft Incident” or mishap occurs, including:
   1. Any missing aircraft.
   2. Any collision.
   3. Injury to any person or any loss of consciousness.
   4. Damage to any property other than the UAS.

B. The CONTRACTOR shall support the DEPARTMENT and other agencies with subsequent investigations into the cause of the mishap and with the implementation of corrective actions that are required by CONTRACTOR as a result of the mishap.

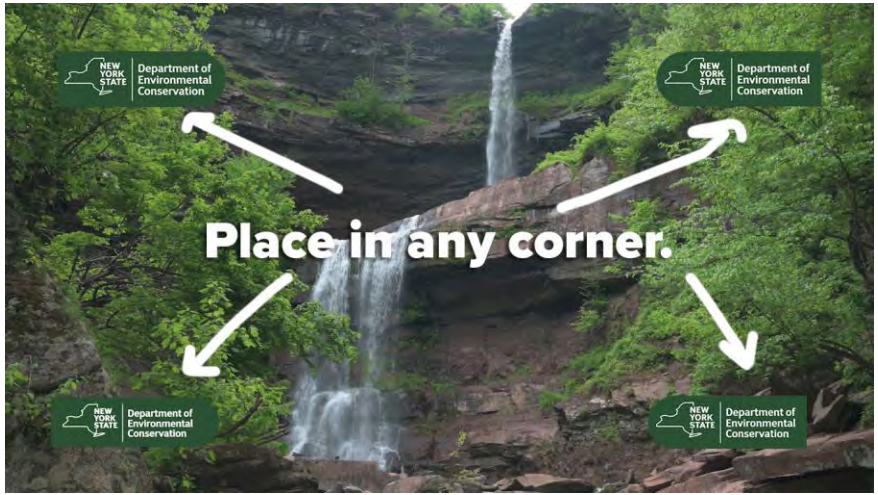


Department of Environmental Conservation

DEC Video Style Guide

DEC Identifier

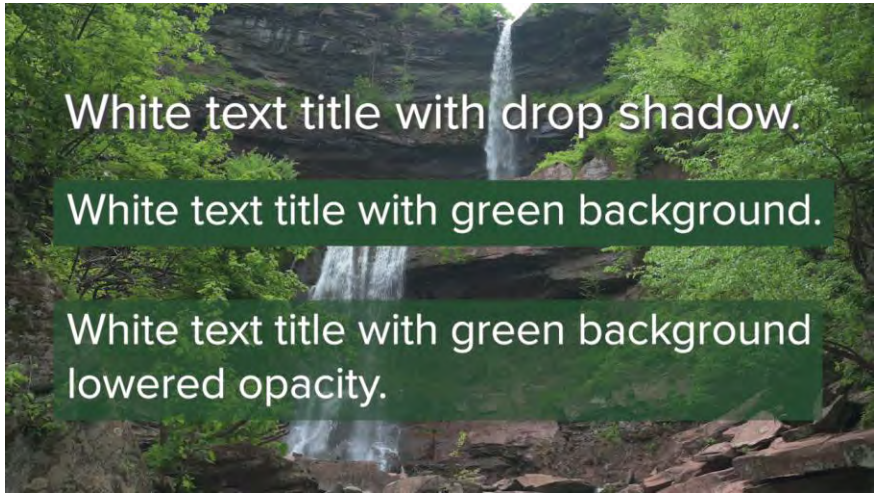
- The DEC Identifier should fade in and stay on screen for at least 10 seconds before fading back out.
- It can be placed in any corner to avoid blocking important imagery underneath.
- Keep the text within the title safe margin.
- Use the appropriate identifier file to have the rounded edge face inward.



NEW YORK STATE | Department of Environmental Conservation

Titles

- Titles should use simple language that is easy to read quickly.
- Keep the title on the screen long enough for someone to read it twice.
- Text can be white or white with a green background (either solid or reduced opacity)
- Use drop shadow where necessary to help text stand out against background.
- DEC Green Hex code: #2C5234
- Fonts: Proxima Nova or Oswald (Use Arial if both fonts are not available)



Editing

- Keep video to 2:30 – 3:00 minutes whenever possible.
- Edit clips on the action.
- Still images used as video should move slowly on screen. (Pan or zoom)
- Avoid showing brand names or the names of establishments.



Zooming out Image

Audio

- We can provide music tracks to add to the project from Artlist.io. Send us a link to a track you want to use (intended for use in this project only) and we can provide it or add it in ourselves before posting.
- Reduce music level to ~ -20dB if voice over is placed over music.
- Ensure final mix of audio does not peak.

End Slate

- Fade to end slate image file at the end of video.
- Allow slate to be on screen for 10 seconds.



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For more information visit:

www.dec.ny.gov


NEW
YORK
STATE
Department of
Environmental
Conservation



Department of Environmental Conservation

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall prepare and furnish submittals in accordance with the General Conditions, Section VIII, Article 5.24 through 5.30.
   2. Provide submittals well in advance of need for the material or equipment, or procedure (as applicable), in the Work and with ample time required for delivery of materials and equipment and to implement procedures following ENGINEER's approval or acceptance of the associated submittal. Work covered by a submittal will not be included in progress payments until approval or acceptance of related submittals has been obtained in accordance with the Contract Documents.
   3. CONTRACTOR is responsible for dimensions to be confirmed and corrected at the Site; quantities; information pertaining solely to fabrication processes; means, methods, sequences, procedures, and techniques of construction; safety precautions and programs incident thereto; and for coordinating the work of all trades.
   4. CONTRACTOR's signature of submittal's stamp and letter of transmittal shall be CONTRACTOR's representation that CONTRACTOR has complied with his obligations under the Contract Documents relative to that submittal. ENGINEER and OWNER shall be entitled to rely on such representations by CONTRACTOR.
   5. Provisions of the General Conditions, as may be modified by the Supplementary Conditions, apply to all CONTRACTOR-furnished submittals required by the Contract Documents, regardless of whether such submittals are other than Shop Drawings or Samples.

B. Samples:
   1. Submittal of Samples shall comply with the General Conditions, as may be modified by the Supplementary Conditions, this Section, and the Specifications Section in which the Sample is specified.
   2. Furnish at the same time those Samples and submittals that are related to the same element of the Work or Specifications Section. ENGINEER will not review submittals without associated Samples and will not review Samples without associated submittals.
   3. Samples shall clearly illustrate functional characteristics of materials, all related parts and attachments, and full range of color, texture, pattern, and materials.

C. Restrictions on Quantity of Submittals and Compensation of OWNER:

1. CONTRACTOR shall furnish required submittals with sufficient information and accuracy to obtain required approval or acceptance of submittal by ENGINEER with not more than the number of resubmittals indicated in the General Conditions (as may be modified by the Supplementary Conditions).
2. Total number of CONTRACTOR's submittals shall not exceed 25 percent above the total number of first-time submittals indicated in the Schedule of Submittals initially accepted by ENGINEER in accordance with the General Conditions. ENGINEER will record ENGINEER's time for reviewing submittals of Shop Drawings, Samples, and other submittals and items requiring approval or acceptance, beyond the quantity of first-time submittals indicated in the Schedule of Submittals initially accepted by ENGINEER, and CONTRACTOR shall reimburse OWNER for ENGINEER's charges for such time.
3. In the event that CONTRACTOR requests a substitution for a previously approved item, Contractor shall reimburse OWNER for ENGINEER's charges for such time unless the need for such substitution is beyond the control of CONTRACTOR.
4. OWNER may impose set-offs against CONTRACTOR for the costs for which CONTRACTOR is to reimburse or compensate OWNER, in accordance with the General Conditions.

1.2 TYPES OF SUBMITTALS

A. Submittal types are classified as follows: 1) Action Submittals, 2) Informational Submittals, 3) Closeout Submittals, and 4) Maintenance Material submittals. Type of each required submittal is designated in the respective Specifications Sections; when type of submittal is not designated in the associated Specification Section, submittal will be classified as follows:
   1. Action Submittals include:
      a. Shop Drawings.
      b. Product data.
      c. Delegated design submittals, which include documents prepared, sealed, and signed by a design professional retained by CONTRACTOR, Subcontractor, or Supplier for materials and equipment to be incorporated into the completed Work. Delegated design submittals do not include submittals related to temporary construction unless specified otherwise in the related Specifications Section. Delegated design submittals include: design drawings, design data including calculations, specifications, certifications, and other submittals prepared by such design professional.
      d. Samples.
      e. Testing plans, procedures, and testing limitations.
   2. Informational Submittals include:
      a. Certificates.
      b. Design data not sealed and signed by a design professional retained by CONTRACTOR, Subcontractor, or Supplier.
      c. Pre-construction test and evaluation reports, such as reports on pilot

testing, subsurface investigations, testing for a potential Hazardous Environmental Condition, and similar reports.

d. Supplier instructions, including installation data, and instructions for handling, starting-up, and troubleshooting.
e. Source quality control submittals (other than testing plans, procedures, and testing limitations), including results of shop testing.
f. Field or Site quality control submittals (other than testing plans, procedures, and testing limitations), including results of operating and acceptability tests at the Site.
g. Supplier reports.
h. Sustainable design submittals (other than sustainable design closeout documentation).
i. Special procedure submittals, including plans for shutdowns and tie-ins and other procedural submittals.
j. Qualifications statements.
k. Administrative submittals including:
    1) Progress Schedules.
    2) Schedules of Submittals.
    3) Schedules of Values.
    4) Photographic documentation.
    5) Coordination drawings, when submittal of such is required.
    6) Copies of permits obtained by CONTRACTOR.
    7) Field engineering reports, survey data, and similar information.

3. Closeout Submittals include:
    a. Maintenance contracts.
    b. Operations and maintenance data.
    c. Bonds, such as special maintenance bonds and bonds for a specific material, equipment item, or system.
    d. Warranty documentation.
    e. Record documentation.
    f. Sustainable design closeout documentation.
    g. Software.
    i. Keying.
4. Maintenance Material Submittals include:
    a. Spare parts.
    b. Extra stock materials.
    c. Tools.
5. When type of submittal is not specified and is not included in the list above, request an interpretation from ENGINEER and ENGINEER will determine the type of submittal.

B. Not Included in this Section: Administrative and procedural requirements for following are covered elsewhere in the Contract Documents:
1. Requests for interpretations of the Contract Documents.
2. Change Orders, Work Change Directives, and Field Orders.
3. Applications for Payment

4. Reports, documentation, and permit applications required to be furnished by CONTRACTOR to authorities having jurisdiction.

C. In accordance with Section III, Article 5, the Apparent Low Bidder shall, at a minimum, submit the following with the required five-day submittal package, 5 days following the Notice of Apparent Low Bidder.
   1. Health and Safety Plan
      a. Health and Safety.
      b. Decontamination of Equipment and Personnel.
      c. Contingency Measures.
      d. Community Air Monitoring.
      e. Odor Control Plan.
   2. Work Plan at minimum shall include:
      a. Procedures for adequate and safe excavation of soils and materials including a contingency plan detailing procedures and methods to be employed to prevent, contain, and recover spills during the work.
      b. Description of equipment to be used on site with appropriate safety devices needed to undertake the remediation of the site.
      c. Identification of the permitted treatment, storage, and disposal facilities (TSDF) proposed to receive liquid or solid wastes to be transported off-site.
      d. Identification of permits required to conduct the work.
      e. Worksite layout showing, at a minimum, equipment and material staging areas, trailers, decontamination station, and staging procedures.
      f. Detailed construction drawing(s) of the proposed decontamination station.
      g. Procedures for excavating, handling, storing, and placing soils.
      h. Procedures for handling liquid wastes and groundwater.
      i. Provisions for control of fugitive air emissions and dust control.
      j. Other requirements necessary to provide security, staging, sampling, testing, removal, and disposal of wastes.
      k. Procedures for completing any other major aspect of the work including:
         1. Sampling and Quality Control Plan
         2. Sequencing of Work.
         3. Soil Erosion and Sedimentation Control Measures.
         4. Monitoring Well Decommissioning and Installation Plan
         5. Transportation Plans
         6. Site Security.
         7. Miscellaneous Requirements.

D. Required for Notice of Intent to Award and Notice to Proceed. The CONTRACTOR shall submit the following plans for the Work by the time of the Notice to Proceed, following receipt of the Notice to Intent to Award:
   1. Bid Breakdown of items reflecting adjusted contract amount as reflected in Section III- Bidding Information and Requirements, Article 12- Bid Breakdown.
   2. Six (6) Executed copies of the contract agreements with original signatures;

3. Performance Bond and Insurances;
4. M/WBE waiver form if contract goals are not expected to be met;
5. Completed NYS Office of State Comptroller Substitute Form W-9;
6. Service-Disabled Veteran-Owned Business SDVOB Utilization Plan on Form SDVOC 100.
7. Acceptable 5-day submittal package as described in Paragraph 1.2.C above; and
8. Authorizing resolution for (Authority to sign Contract on behalf of the firm).

E. Submittals following Notice to Proceed. Major submittal requirements identified in other sections of the Specifications are listed below, however, this list is not inclusive of all submittals required elsewhere:
1. Final plans, engineered approved plans, as described in Paragraph 1.2.C.
2. Interim progress schedule, schedule of values, and technical submittals detailed in the first three months of the progress schedule
3. All other technical submittals required by the contract in accordance with the approved Submittal Registry and in accordance with General Conditions , Articles 5.24 through 5.30.
4. All other submittals as required by the Supplementary Specifications applicable to the Work being performed or as requested by the ENGINEER.

1.3 REQUIREMENTS FOR SCHEDULE OF SUBMITTALS

A. Informational Submittals: Submit the following:
1. Schedule of Submittals:
   a. Timing:
      1) Furnish submittal within time frames indicated in the Contract Documents.
      2) Submit updated Schedule of Submittals with each submittal of the updated Progress Schedule.
   b. Content: In accordance with the General Conditions, as may be modified by the Supplementary Conditions, and this Section. Requirements for content of preliminary Schedule of Submittals and subsequent submittals of the Schedule of Submittals are identical. Identify on Schedule of Submittals all submittals required in the Contract Documents. Updates of Schedule of Submittals shall show scheduled dates and actual dates for completed tasks. Indicate submittals that are on the Project's critical path. Indicate the following for each submittal:
      1) Date by which submittal will be received by ENGINEER.
      2) Whether submittal will be for a substitution or "or-equal". Procedures for requesting approval of substitutes and "or-equals" are specified in the General Conditions, Section 01 25 00, Substitution Procedures, and Section 01 62 00, Product Options (for "or-equals").
      3) Date by which ENGINEER's response is required. Not less than 14 days shall be allowed for ENGINEER's review, starting upon ENGINEER's actual receipt of each submittal. Allow increased time for large or complex submittals.

4) For submittals for materials or equipment, date by which material or equipment must be at the Site to avoid delaying the Work and to avoid delaying the work of other contractors, if any.

c. Prepare Schedule of Submittals using same software, and in same format, specified for Progress Schedules in Section 01 32 16, Progress Schedule.

d. Coordinate Schedule of Submittals with the Progress Schedule.

e. Schedule of Submittals that is not compatible with the Progress Schedule, or that does not indicate submittals on the Project's critical path, or that that places extraordinary demands on ENGINEER for time and resources, is unacceptable. Do not include submittals not required by the Contract Documents.

f. In preparing Schedule of Submittals:

1) Considering the nature and complexity of each submittal, allow sufficient time for review and revision.

2) Reasonable time shall be allowed for: ENGINEER's review and processing of submittals, for submittals to be revised and resubmitted, and for returning submittals to CONTRACTOR.

3) Identify and accordingly schedule submittals that are expected to have long anticipated review times.

1.4 PROCEDURE FOR SUBMITTALS

A. Submittal Identification System: Use the following submittal identification system, consisting of submittal number and review cycle number.

1. Submittal Number: Shall be separate and unique number correlating to each individual submittal required. Assign submittal numbers as follows:

a. First part of submittal number shall be the applicable Specifications Section number, followed by a hyphen.

b. Second part of submittal number shall be a three-digit number (sequentially numbered from 001 through 999) assigned to each separate and unique submittal furnished under the associated Specifications Section.

c. Typical submittal number for the third submittal furnished for Section 40 05 19, Ductile Iron Process Pipe, would be "40 05 19-003".

2. Review Cycle Number: Shall be a number indicating the initial submittal or re-submittal associated with each submittal number:

a. "01" = Initial (first) submittal.

b. "02" = Second submittal (e.g., first re-submittal).

c. "03" = Third submittal (e.g., second re-submittal).

3. Examples:

Example Description	Submittal Identification	
	Submittal No.	**Review Cycle**
Initial (first) review cycle of the third submittal provided under Section 40 05 19, Ductile Iron Process Pipe	40 05 19-003-	01
Second review cycle (first re-submittal) of third submittal provided under Section 40 05 19, Ductile Iron Process Pipe	40 05 19-003-	02

B. Letter of Transmittal for Submittals:
   1. Furnish separate letter of transmittal with each submittal. Each submittal shall be for one Specifications Section.
   2. At beginning of each letter of transmittal, include a reference heading indicating: CONTRACTOR's name, OWNER's name, Project name, Contract designation, transmittal number, and submittal number.
   3. For submittals with proposed deviations from requirements of the Contract Documents, letter of transmittal shall specifically describe each proposed variation.

C. Contractor's Review and Stamp:
   1. Contractor's Review: Before transmitting submittals to ENGINEER, review submittals to:
      a. ensure proper coordination of the Work;
      b. determine that each submittal is in accordance with CONTRACTOR's desires;
      c. verify that submittal contains sufficient information for ENGINEER to determine compliance with the Contract Documents.
   2. Incomplete or inadequate submittals will be returned without review.
   3. Contractor's Stamp and Signature:
      a. Each submittal furnished shall bear CONTRACTOR's stamp of approval and signature, as evidence that submittal has been reviewed by CONTRACTOR and verified as complete and in accordance with the Contract Documents.
      b. Submittals without CONTRACTOR's stamp and signature will be returned without review. Signatures that appear to be computer-generated will be regarded as unsigned and the associated submittal will be returned without review.
      c. CONTRACTOR's stamp shall contain the following:

"Project Name: _____

Contractor's Name: _____

Contract Designation: _____

Date: _____

---------- *Reference* ----------

Submittal Title: _____

Specifications:

Section: _____

Page No.: _____

Paragraph No.: _____

Drawing No.: _____ of _____

Location of Work: _____

Submittal No. and Review Cycle: _____

Coordinated by Contractor with Submittal Nos.: _____

_____

I hereby certify that the Contractor has satisfied Contractor's obligations under the Contract Documents relative to Contractor's review and approval of this submittal.

Approved for Contractor by: _____"

D. Submittal Marking and Organization:

1. Mark on each page of submittal and each individual component submitted with submittal number and applicable Specifications paragraph. Mark each page of each submittal with the submittal page number.
2. Arrange submittal information in same order as requirements are written in the associated Specifications Section.
3. Each Shop Drawing sheet shall have title block with complete identifying information satisfactory to ENGINEER.
4. Package together submittals for the same Specifications Section. Do not furnish required information piecemeal.

E. Format of Submittal and Recipients:

1. Action Submittals and Informational Submittals: Furnish in accordance with Table 01 33 00-A, except that submittals of Samples shall be as specified elsewhere in this Section:

TABLE 01 33 00-A: SUBMITTAL CONTACTS AND REQUIRED FORMAT

	Address for Deliveries	Contact Person	E-mail Address	Format*	No. of Printed Copies
a.	Engineer: (TBD)	(TBD)	(TBD)	E	Zero
b.	Resident Project Representative: At the Site.	(TBD)	(TBD)	E & P	One
* **Format**: E = Electronic files; P = Printed copies. TBD = To Be Determined					

2. Samples:
   a. Securely label or tag Samples with submittal identification number. Label or tag shall include clear space at least four inches by four inches in size for affixing ENGINEER's review stamp. Label or tag shall not cover, conceal, or alter appearance or features of Sample. Label or tag shall not be separated from the Sample.
   b. Submit quantity of Samples required in Specifications. If quantity of Samples is not indicated in the associated Specifications Section, furnish not less than two identical Samples of each item required for ENGINEER's approval. Samples will not be returned to CONTRACTOR. If CONTRACTOR requires Sample(s) for CONTRACTOR's use, so advise ENGINEER in writing and furnish additional Sample(s). CONTRACTOR is responsible for furnishing, shipping, and transporting additional Samples.
   c Deliver one Sample to ENGINEER's field office at the Site. Deliver balance of Samples to ENGINEER at address indicated in Table 01 33 00-A, unless otherwise directed by ENGINEER.
3. Closeout Submittals:
   a. Furnish the following Closeout Submittals in accordance with Table 01 33 00-A: maintenance contracts; bonds for specific materials, equipment, or systems; warranty documentation; and sustainable design closeout documentation. On documents such as maintenance contracts and bonds, include on each document furnished original ("wet") signature of entity issuing said document. When original "wet" signatures are required, furnish such submittals in printed form and electronic form to ENGINEER, and to other entities furnish as indicated in Table 01 33 00-A.
   b. Record Documentation: Submit in accordance with Section 01 78 39, Project Record Documentation.
   c. Software: Submit number of copies required in Specifications Section where the software is specified. If number of copies is not specified, provide two copies on compact disc in addition to software loaded on OWNER's computer(s) or microprocessor(s).
4. Maintenance Material Submittals: For spare parts, extra stock materials, and tools, furnish quantity of items specified in associated Specifications Section.

F. Electronic Submittals:
   1. Format: Electronic files shall be in "portable document format" (.PDF). Files shall be electronically searchable.
   2. Organization and Content:
      a. Each electronic submittal shall be one file; do not divide individual submittals into multiple files each.
      b. When submittal is large or contains multiple parts, furnish PDF file with bookmark for each section of submittal.
      c. Content shall be identical to printed submittal. First page of electronic submittal shall be CONTRACTOR's letter of transmittal.
   3. Quality and Legibility: Electronic submittal files shall be made from the original and shall be clear and legible. Do not submit scans of faxed copies. Electronic file shall be full size of original, printed documents. Properly orient all pages for reading on a computer screen.
   4. Provide sufficient Internet service and e-mail capability for CONTRACTOR's use in transferring electronic submittals, receiving responses to electronic submittals, and associated electronic correspondence. Check not less than once per day for distribution of electronic submittals, electronic responses to submittal, and electronic correspondence related to submittals.
   5. Submitting Electronic Files:
      a. Transmit electronic files in accordance with Section 01 31 26, Electronic Communication Protocols.

G. Distribution:
   1. Distribution of ENGINEER's Response via Electronic Files: Upon completion of ENGINEER's review, electronic submittal response will be distributed by ENGINEER to
      a. CONTRACTOR.
      b. Other prime contractors.
      c. OWNER.
      d. Resident Project Representative (RPR).
      e. ENGINEER's file.

H. Resubmittals: Refer to the General Conditions for requirements regarding resubmitting required submittals.

I. CONTRACTOR shall furnish required submittals with complete information and accuracy in order to achieve required approval of an item within two submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be back-charged to CONTRACTOR, at the rate equal to the ENGINEER's charges to the DEPARTMENT under the terms of the ENGINEER's agreement with the 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 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. In

the event that CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be back-charged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

J. Shop Drawings shall be submitted well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment which are fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.

K. ENGINEER will review and approve or disapprove Shop Drawings and samples within 14 days of receipt from CONTRACTOR. The ENGINEER will process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.

L. It is CONTRACTOR'S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper coordination of the Work and to determine that each submittal is in accordance with his desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract Documents. Incomplete or inadequate submittals will be returned for revision without review.

M. Any related Work performed or equipment installed without an "Approved" or "Approved as Noted" Shop Drawing will be at the sole responsibility of the CONTRACTOR.

1.5 ENGINEER'S REVIEW

A. Timing: ENGINEER's review will conform with timing indicated in the Schedule of Submittals accepted by ENGINEER.

B. Submittals not required by the Contract Documents will not be reviewed by ENGINEER and will not be recorded in ENGINEER's submittal log. All printed copies of such submittals will be returned to CONTRACTOR. Electronic copies of such submittals, if any, will not be retained by ENGINEER.

C. Action Submittals, Results of ENGINEER's Review: Each submittal will be given one of the following dispositions by ENGINEER:
   1. Approved: Upon return of submittal marked "Approved", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control

submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents.

2. Approved as Corrected: Upon return of submittal marked "Approved as Corrected", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents, and in accordance with the corrections indicated in the ENGINEER's submittal response.
3. Approved as Corrected – Resubmit: Upon return of submittal marked "Approved as Corrected – Resubmit", order, ship, or fabricate materials and equipment included in the submittal (pending ENGINEER's approval or acceptance, as applicable, of source quality control submittals) or otherwise proceed with the Work in accordance with the submittal and the Contract Documents, and in accordance with corrections indicated in ENGINEER's submittal response. Furnish to ENGINEER record re-submittal with all corrections made. Receipt of corrected re-submittal is required before materials or equipment covered in the submittal will be eligible for payment.
4. Revise and Resubmit: Upon return of submittal marked "Revise and Resubmit", make the corrections indicated and re-submit to ENGINEER for approval.
5. Not Approved: This disposition indicates material or equipment that cannot be approved. "Not Approved" disposition may also be applied to submittals that are incomplete. Upon return of submittal marked "Not Approved", repeat initial submittal procedure utilizing approvable material or equipment, with a complete submittal clearly indicating all information required.

D. Informational Submittals, Results of ENGINEER's Review:
   1. Each submittal will be given one of the following dispositions:
      a. Accepted: Information included in submittal complies with the applicable requirements of the Contract Documents and is acceptable. No further action by CONTRACTOR is required relative to this submittal, and the Work covered by the submittal may proceed, and materials and equipment with submittals with this disposition may be shipped or operated, as applicable.
      b. Not Accepted: Submittal does not indicate compliance with applicable requirements of the Contract Documents and is not acceptable. Revise submittal and re-submit to indicate acceptability and compliance with the Contract Documents.

E. Closeout Submittals, Results of ENGINEER's Review: Dispositions and meanings are the same as specified for Informational Submittals. When acceptable, Closeout Submittals will not receive a written response from ENGINEER. Disposition as "accepted" will be recorded in ENGINEER's submittal log. When Closeout Submittal is not acceptable, ENGINEER will provide written response to CONTRACTOR.

F. Maintenance Material Submittals, Results of ENGINEER's Review: Dispositions and meanings are the same as specified for Informational Submittals. When acceptable, Maintenance Material Submittals will not receive a written response from ENGINEER. Disposition as "accepted" will be recorded in ENGINEER's submittal log. When Maintenance Material Submittal is not acceptable, ENGINEER will provide written response to CONTRACTOR, and CONTRACTOR is responsible for costs associated with transporting and handling of maintenance materials until compliance with the Contract Documents is achieved.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01 35 29

CONTRACTOR'S HEALTH AND SAFETY PLAN

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall prepare and maintain a written, Site-specific, health and safety plan (SSHASP), and conduct all construction activities in safe manner that avoids:
      a. injuries to employees, Subcontractors, and other persons with an interest at or near the Site;
      b. employee exposures to health hazards above occupational limits established by Laws or Regulations, American Conference of Governmental Industrial Hygienists (ACGIH), and Nuclear Regulatory Commission (NRC), as applicable;
      c. exposure of the public and DEPARTMENT's employees to air contaminants above levels established for public exposure by the USEPA, NRC, and by other authorities having jurisdiction at the Site;
      d. significant increases in concentrations of contaminants in soil, water, or sediment near the Site; or
      e. violations of OSHA Regulations, or other Laws or Regulations.
   2. 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.
   3. 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.
   4. 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.
   5. 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 appraised, 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.

B. Related Sections:
   1. Section 01 35 43.13, Environmental Procedures for Hazardous Materials.

1.2 QUALITY ASSURANCE

A. Qualifications:
   1. Preparer of SSHASP:
      a. Engage a Certified Industrial Hygienist (CIH), accredited by the American Board of Industrial Hygiene, or Certified Safety Professional certified by the Board of Certified Safety Professionals, to prepare or supervise preparation of SSHASP. The CIH must have a minimum of two years of experience in hazardous waste site remediations or related industries and have a working knowledge of federal and state occupational health and safety regulations.
      b. SSHASP preparer shall be thoroughly familiar with: (i) Laws and Regulations and industry standards of safety and protection relating to health and safety pertaining to the Work; (ii) the requirements of the Contract Documents relative to health, safety, and protection; (iii) health and safety hazards associated with the Work and appropriate protections therefor; and (iv) CONTRACTOR's and DEPARTMENT's safety programs.
      c. SSHASP preparer shall have previously prepared site-specific health and safety plans for not less than five construction projects similar in nature, scope, and complexity to the Work.
      d. Submit preparer's qualifications with SSHASP.
   2. Safety Officer:
      a. The designated Safety Officer (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.
   3. Health and Safety Technicians:
      a. 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.

B. Regulatory Requirements: Laws and Regulations applying to the Work under this Section include, but are not limited to:
   1. 29 CFR 1904 (OSHA), Recording and Reporting Occupational Injuries and Illnesses.
   2. 29 CFR 1910 (OSHA), Occupational Safety and Health Standards.
   3. 29 CFR 1926 (OSHA), Safety and Health Regulations for Construction.
   4. 49 CFR 171.8, Transportation, Definitions and Abbreviations.
   5. 40 CFR 261.3, 264, and 265, Resource Conservation and Recovery Act (RCRA).

1.3 SUBMITTALS

A. Informational Submittals: Submit the following:
   1. CONTRACTOR's SSHASP, in accordance with this Section. Submit within times indicated in Article 1.4 of this Section.
   2. Job safety analyses (JSA) submittals for each action required for the Work that is not covered in CONTRACTOR's SSHASP.
   3. Reports:
      a. Health and safety reports.
      b. Accident reports.
   4. Qualifications Statements:
      a. Qualifications for SSHASP preparer, including copy of valid, applicable certifications.

1.4 SSHASP AND JSA SUBMITTALS

A. Timing of Submittals:
   1. Submit SSHASP the sooner of: seven days prior to pre-construction conference, or 30 days prior to CONTRACTOR's scheduled mobilization at the Site.
   2. Do not perform Work at the Site until written SSHASP has been accepted by ENGINEER.
   3. When an element of the Work or work activity is not covered by the SSHASP, prepare and submit a JSA and obtain ENGINEER's acceptance of JSA before performing the work activity or activities covered by such JSA.
   4. Delays in the Work Associated with Submittal or Review of SSHASP and JSAs:
      a. Notwithstanding other provisions of the Contract Documents, changes in the Contract Price or Contract Times will not be authorized due to delay by CONTRACTOR in developing, submitting, revising, or obtaining acceptance of the SSHASP.

B. Limitations of ENGINEER's Review of SSHASP and JSAs:
   1. ENGINEER's review and acceptance of SSHASP and JSAs (if any) will be only to determine if the topics covered in SSHASP comply with the Contract Documents and specific requirements of safety documents referenced therein (such as DEPARTMENT's safety programs, if any).

2. ENGINEER's review and acceptance will not extend to safety measures, means, methods, techniques, procedures of construction, or whether representations made in the SSHASP and JSAs (if any) comply with Laws and Regulations, or standards of good practice.
3. CONTRACTOR's responsibility for safety and protection at the Site shall be as indicated in the Contract Documents. Nothing associated with ENGINEER's review or acceptance of SSHASP or JSAs will create or imply any obligation by ENGINEER to oversee or become, in any way, responsible for CONTRACTOR's safety obligations under the Contract Documents.

1.5 CONTRACTOR'S HEALTH AND SAFETY PROGRAM

A. General:
1. Known prior use(s) of the Site are indicated.
2. The Site is classified as hazardous waste site. Presence of Constituents of Concern (if any), where known to DEPARTMENT and ENGINEER, are indicated in the reports and drawings (if any) of such Hazardous Environmental Conditions listed in the Supplementary Conditions .
3. Each employer working at the Site shall develop and implement a written SSHASP for their employees and other individuals for whom such employer is responsible.
4. When applicable (including when the Site includes one or more Hazardous Environmental Conditions), SSHASP shall comply with 29 CFR 1904, 29 CFR 1910, 29 CFR 1926, and other Laws and Regulations.
5. Include in the SSHASP requirements for complying with DEPARTMENT's Site-specific hazard/emergency response plans, if any. During the Project, comply with DEPARTMENT's hazard/emergency response plans.
6. 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 items in accordance with 29 CFR 1910.120(I)(2).

B. Location:
1. Retain at the Site a copy of complete SSHASP, JSAs (if any), and related information.
2. Retain copy of SSHASP, JSAs (if any), and related information at CONTRACTOR's project office.
3. Throughout the Project, update as necessary all copies of SSHASP, JSAs, and related information.
4. Copies of SSHASP, JSAs, and other related information shall be made available to CONTRACTOR's employees, Subcontractors, Suppliers, DEPARTMENT, and ENGINEER immediately upon request.

C. SSHASP Content: SSHASP shall address and include the following:
1. Address safety and health hazards of each phase of operations at the Site and shall include requirements and procedures for employee protection.

2. CONTRACTOR’s organizational structure and other information required by Paragraph 1.5.D of this Section.
3. Comprehensive work plan.
4. Job safety and health risk or hazard analysis for each task and operation found in the work plan.
5. Employee training assignments including copies of OSHA 40-hour, 24-hour supervised field activities, eight-hour supervisors, and eight-hour refresher training certificates for each CONTRACTOR and Subcontractor employee assigned to the Project.
6. Personal protective equipment (PPE) to be used by employees for each task and activity performed. Include respirator fit test certificates for CONTRACTOR and Subcontractor employees assigned to the Project.
7. Medical Surveillance Requirements: Medical clearance certificates for all CONTRACTOR and Subcontractor employees assigned to the Project. The physical examination shall also include but not be limited to the following minimum requirements:
    a. Complete blood profile;
    b. 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;
    c. Urine analysis;
    d. "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;
    e. Electrocardiogram;
    f. Chest X-ray (if recommended by examining physician in accordance with good medical practice);
    g. Pulmonary function;
    h. Audiometry - To be performed by a certified technician, audiologist, or physician. The range of 500 to 8,000 hertz should be assessed.
    i. 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.
    j. Tetanus booster shot (if no inoculation has been received within the last five years); and
    k. Complete medical history.
8. Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment.
9. Site control measures, including procedures for:
    a. preventing trespassing;
    b. preventing unqualified or unprotected workers from entering restricted areas;
    c. preventing “tracking” of contaminants out of the Site;

d. maintaining log of employees at the Site and visitors to the Site;
e. communicating routes of escape and gathering points.
f. ensuring safe handling of Constituents of Concern during the Work, including excavating, handling, loading, and transporting activities. Include procedures for ensuring safety when working in or proximity to Hazardous Environmental Conditions,
g. delineating “hot” (e.g., contaminated), “cold”, and support zones;
h. locating personnel and equipment decontamination zones; and
i. decontamination.
j. first aid facilities including fully equipped first air station and routine replenishment of supplies.
k. sanitary facilities including potable drinking water, washing facilities and portable toilets.
l. The CONTRACTOR shall be responsible for maintaining a log of security incidents and visitor access granted.
m. 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.
n. 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.
o. Site visitors shall not be permitted to enter the hazardous work zone unless approved by the DEPARTMENT.
p. 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.

10. Plan for safe and effective responses to emergencies, including necessary PPE and other equipment.
11. Community Protection Plan consisting of the following:
    a. 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 consisting of the following:

        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 consisting of the following:
   1. If the ambient air concentration of organic vapors exceed 5 ppm above background at the perimter 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 consisting of the following:
   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 consisting of the following:
   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 control consisting of the following:

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 consisting of the following:

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.

12. Spill containment program. Comply with Section 01 35 44, Spill Prevention Control and Countermeasures Plan.

13. Requirements for complying with Section 01 35 43.13, Environmental Procedures for Hazardous Materials.

D. CONTRACTOR's Organizational Structure:

1. Organizational structure portion of the SSHASP shall refer to or incorporate information on specific chain of command and specify the overall responsibilities of supervisors and employees, and shall include the following:

a. Name and contact information for CONTRACTOR's "competent person(s)" for various work-related activities.

b. Name and contact information for CONTRACTOR's safety representative.

c. Designation of general supervisor who has responsibility and authority to direct operations involving handling of Constituents of Concern and work in or near Hazardous Environmental Conditions.

c. Other personnel required for operations involving Constituents of Concern and Hazardous Environmental Conditions and emergency response, and general functions and responsibilities of each.
d. Lines of authority, responsibility, and communication.

2. Review and update organizational structure as necessary to reflect current status of work activities on the Project and status of personnel.

E. Work Plan:

1. Comprehensive work plan portion of SSHASP shall refer to or incorporate information on the following:
   a. Tasks and objectives of work activities, onsite operations, and logistics and resources necessary to achieve such tasks and objectives.
   b. Anticipated activities and CONTRACTOR's normal operating procedures.
   c. Personnel and equipment requirements for implementing the work plan.

1.6 ACCIDENT REPORTING AND INVESTIGATION

A. Comply with 29 CFR 1904.29, including using OSHA Forms 300, 300A, and 301 (or equivalent) to document all accidents that result in bodily injury.

B. Accident Report Submittals:

1. Submit copies of completed accident reports to DEPARTMENT and ENGINEER within 24 hours of the accident.
2. By the tenth day of each month, submit monthly summary of accident reports from the prior month. Monthly summary report shall indicate for each accident the root cause and descriptions of corrective actions to reduce the probability of similar accidents.
3. Submit to DEPARTMENT and ENGINEER a copy of all accident and health or safety hazard reports received from OSHA or other authority having jurisdiction within 24 hours of CONTRACTOR's receipt.

C. Based upon results of accident investigation, modify the SSHASP as required by changing tasks or procedures to prevent reoccurrence of accident.

D. Post current copy of CONTRACTOR's OSHA 300A report, Summary of Work-related Injuries and Illnesses, at conspicuous place at the Site during period of February 1 through April 30 of each year.

1.7 DAILY HEALTH AND SAFETY FIELD REPORTS

A. Submit to DEPARTMENT and ENGINEER daily health and safety field reports.

B. Content of CONTRACTOR's Daily Health and Safety Field Reports: Reports shall include, but not necessarily be limited to, the following:

1. Weather conditions.
2. Delays encountered in construction

3. Acknowledgment of deficiencies noted along with corrective actions taken on current and previous deficiencies.
4. Daily health and safety air monitoring results (when air monitoring is performed).
5. Documentation of instrument calibrations performed.
6. New hazards encountered.
7. PPE utilized.
8. Description of problems, real or anticipated, encountered during the Work that should be brought to attention of DEPARTMENT and ENGINEER and notification of deviations from planned Work shown in previously submitted daily health and safety field report(s).

1.8 STANDARD OPERATING PROCEDURES

A. The following are Standard Operating Procedures (SOPs) that should be employed as part of the H&S program:
   1. During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough. Respirator filters will always be changed daily.
   2. All respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.
   3. 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.
   4. 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.
   5. The CONTRACTOR will ensure that all project personnel shall have vision or corrected vision to at least 20/40 in one eye.
   6. Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the hazardous work zones and neutral zones.
   7. No alcohol, firearms or drugs (without prescriptions) will be allowed on site at any time.
   8. 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.
   9. The CONTRACTOR shall provide all equipment and personnel necessary to monitor and control air emissions. The determination of the proper level of protection for each task and safety equipment shall be the responsibility of the CONTRACTOR. These task specific levels of protection shall be stated in the CONTRACTOR's HASP.
   10. The CONTRACTOR shall provide a hygiene facility on site. The hygiene facility shall include the following:
       a. Adequate lighting and heat;

b. Shower facilities for project personnel;
c. Laundry facilities for washing work clothes and towels;
d. Areas for changing into and out of work clothing. Work clothing should be stored separately from street clothing;
e. Clean and "dirty" locker facilities; and
f. Storage area for work clothing, etc.

11. 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.
12. The CONTRACTOR shall provide full decontamination facilities at all hazardous zones. Decontamination facilities must be described in detail in the HASP.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.

18. 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.
19. Real-time monitoring shall be conducted using the following equipment:
    a. 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.
    b. 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.

c. 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.

d. 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.

e. 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.

f. 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.

g. 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.

20. The following master telephone list will be completed and prominently posted at the field office. At minimum, 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.

Emergency Service		Telephone Number
Fire Department		911
Police Department		911
Ambulance		911
Hospital/Emergency Care Facility (Wynn Hospital)		315-917-9966
Poison Control Center		(800) 336-6997
Chemical Emergency Advice (CHEMTREC)		(800) 424-9300
NYSDEC Central Office	Work Hours After Hours	(518) 457-7878 (800) 342-9296 (leave message)
NYSDEC Regional Office	Work Hours	315-793-2447
Oneida County Dept. of Health		315-798-6400
New York State Dept. of Health - Albany		(518) 402-7890
New York State Dept. of Health - Region		315-477-8472

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01 35 43.13

ENVIRONMENTAL PROCEDURES FOR HAZARDOUS MATERIALS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide all labor, materials, equipment, tools, and incidentals necessary to comply with environmental procedures for Constituents of Concern.
2. CONTRACTOR shall develop, implement, and maintain throughout the Project a hazardous materials management program (HMMP) as part of the SSHASP in accordance with Laws and Regulations.
3. Constituents of Concern Brought to Site by CONTRACTOR: Transport, handle, store, label, use, and dispose of in accordance with this Section, other applicable provisions of the Contract Documents, and Laws and Regulations.
4. Constituents of Concern Generated by CONTRACTOR:
    a. Materials containing Constituents of Concern shall be properly handled, stored, labeled, transported and disposed of by CONTRACTOR in accordance with Laws and Regulations, and this Section.
    b. If CONTRACTOR will generate or has generated materials containing Constituents of Concern at the Site, obtain a USEPA identification number listing CONTRACTOR's name and address of the Site as generator of the Constituents of Concern. Obtain identification number from state environmental agency or similar authority having jurisdiction at the Site. Submit identification number within time frame specified in Article 1.3 of this Section.
    c. CONTRACTOR shall be responsible for identifying, analyzing, profiling, transporting, and disposing of Constituents of Concern generated by CONTRACTOR.
5. Fines or civil penalties levied against DEPARTMENT for violations committed at the Site by CONTRACTOR, and costs to DEPARTMENT (if any) associated with cleanup of a Hazardous Environmental Condition created by CONTRACTOR shall be paid by CONTRACTOR. If CONTRACTOR has exacerbated a Hazardous Environmental Condition existing at the Site prior to the start of the Work, CONTRACTOR shall pay a share of costs associated with fines, civil penalties, and cleanup costs to in proportion equal to the extent of CONTRACTOR's responsibility for creating the Hazardous Environmental Condition and fines and civil penalties associated therewith.

B. Enforcement of Laws and Regulations:
   1. Interests of DEPARTMENT are that accidental spills and emissions, Site contamination, and injury of personnel at and near the Site are to be avoided.
   2. When DEPARTMENT is aware of suspected violations, DEPARTMENT will notify CONTRACTOR, and authorities having jurisdiction if DEPARTMENT reasonably concludes that doing so is required by Laws or Regulations.
   3. Responsibilities regarding Laws and Regulations shall be in accordance with the General Conditions, as may be modified by the Supplementary Conditions.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with applicable Laws and Regulations.

1.3 SUBMITTALS

A. Informational Submittals: Submit the following to the entity(ies) specified for each:
   1. Constituents of Concern (including Chemicals) Proposed for Use at the Site:
      a. Content:
         1) Current (dated within the past two years) material safety data sheets (MSDS) in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard).
         2) Manufacturer of material or equipment containing such substance.
         3) Supplier (if different than manufacturer).
         4) Container size(s) and number of containers proposed to be at the Site.
         5) Minimum and maximum volume of material intended to be stored at the Site.
         6) Description of process or procedures in which Constituent of Concern will be used at the Site.
      b. Furnish the information required above in sufficient time to obtain DEPARTMENT's acceptance not later least three days before bringing Constituent of Concern to the Site.
      c. Submit to ENGINEER.
   2. Material Containing Constituents of Concern Generated at the Site:
      a. Submit for each Constituent of Concern generated at the Site identification number, analysis results, and number and size of storage containers at the Site.
      b. Furnish such information within not less than 48 hours after CONTRACTOR's receipt of analytical results.
      c. Submit to ENGINEER.

3. Permits:
    a. Submit copies of permits for storing, handling, using, transporting, and disposing of materials containing Constituents of Concern, obtained from authorities having jurisdiction.
    b. Submit to ENGINEER.
4. Other Documents required for the HMMP: Submit to ENGINEER and/or DEPARTMENT's environmental representative the requested documents within 72 hours of CONTRACTOR's receipt of such request. HMMP documents may include emergency/spill response plan, communication plan, and other documents.

1.4 HAZARDOUS MATERIALS MANAGEMENT

A. Obtain ENGINEER's and/or DEPARTMENT 's environmental representative's acceptance before bringing to the Site each material containing a Constituent of Concern.

B. Communication Plan:
1. CONTRACTOR shall develop a communication plan relative to materials containing one or more Constituents of Concern.
2. MSDS Notebooks:
    a. At minimum, maintain at the Site two notebooks containing: 1) Inventory of materials containing a Constituent of Concern (including all chemicals); and, 2) Current (dated within the past two years) material safety data sheets (MSDS) for all materials being used to accomplish the Work, whether or not defined as a Constituent of Concern.
    b. Keep one notebook in CONTRACTOR's field office at the Site; keep second notebook at location acceptable to ENGINEER.
    c. Keep notebooks up-to-date as materials are brought to and removed from the Site.

C. Emergency/Spill Response Plan: Develop, implement, and maintain an emergency/spill response plan, for each Constituent of Concern or each class/group of material containing a Constituent of Concern, as applicable. At minimum, response plan shall include the following:
1. Description of equipment available at the Site to contain or respond to emergency related to or spill of the material.
2. Procedures for notifying, and contact information for: authorities having jurisdiction, emergency responders, DEPARTMENT, ENGINEER, the public as applicable, and other entities as required.
3. Response coordination procedures between CONTRACTOR, DEPARTMENT and others as appropriate.

4. Site plan showing proposed location of Constituents of Concern storage area and location of spill containment/response equipment, and location of storm water drainage inlets and drainage routes, including storm sewers, ditches and swales, and surface waters.
5. Description of Constituent of Concern handling and spill response training provided to CONTRACTOR's and Subcontractors' employees, in accordance with 29 CFR 1926.21(b) and other Laws and Regulations.

D. Storage of Materials ~~s~~ Containing Constituents of Concern and Storage of Non-Hazardous Materials:
1. Vessels containing materials with a Constituent of Concern shall bear applicable hazard diamond(s).
2. Container Labeling:
   a. Properly label each container of consumable materials, whether or not classified as containing a Constituent of Concern.
   b. Stencil CONTRACTOR's name and, as applicable, Subcontractor's name, on each vessel containing a Constituent of Concern and, for non-hazardous materials, on each container over five-gallon capacity. Containers shall bear securely-attached label clearly identifying contents. Label containers that are filled from larger containers.
   c. If DEPARTMENT becomes aware of unlabeled containers at the Site, ENGINER and/or DEPARTMENT's environmental representative will so advise CONTRACTOR. Properly label container(s) within one hour of receipt of such notice from DEPARTMENT or remove container from the Site.
3. To greatest extent possible, store off-Site materials containing a Constituent of Concern until required for use in the Work.

E. Area for Storing Materials Containing a Constituent of Concern:
1. Maintain designated storage area for materials containing a Constituent of Concern. Storage area shall include secondary containment to prevent release of spilled or leaking substances. Storage area shall include barriers to prevent vehicles from colliding with storage containers and shall include protection from environmental factors such as weather.
2. Provide signage in accordance with Laws and Regulations, clearly identifying the storage area.

F. Not less than monthly, CONTRACTOR's safety representative shall meet with the Engineer and/or DEPARTMENT's environmental representative to review CONTRACTOR's HMMP documents, procedures, and inspect storage areas and the Site in general, to verify compliance with this Section.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01 42 00

REFERENCES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Section includes the following:
      a. Definitions and terminology in general use in the Contract Documents.
      b. Applicable codes.
      c. DEPARTMENTS's referenced specifications, where applicable.
      d. Abbreviations in general use throughout the Contract Documents.
      e. General requirements regarding reference standards, including a listing of standard-issuing organizations (and their acronyms) used in the Contract Documents.

1.2 DEFINITIONS AND TERMINOLOGY

A. Definitions and terminology applicable to all the Contract Documents are included in the General Conditions, as may be modified by the Supplementary Conditions.

B. Additional terminology used in the Contract Documents includes the following:
   1. "Indicated" refers to graphic representations, notes, or schedules on the Drawings, or to other paragraphs, provisions, tables, or schedules in the Specifications and similar locations in the other Contract Documents. Terminology such as "shown", "noted", "scheduled", and "specified" are used to help the user locate the reference without limitation on the location.
   2. "Installer", "applicator", or "erector" is CONTRACTOR or another person or entity engaged by CONTRACTOR, either as an employee or Subcontractor, to perform a particular construction activity, including installation, erection, application, or similar Work. Installers shall be experienced in the Work that installer is engaged to perform.
      a. The term "experienced", when used in conjunction with the term "installer", means having successfully completed not less than five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated and required; being familiar with Laws and Regulations; and having complied with requirements of authorities having jurisdiction, and complying with requirements of the Supplier of the material or equipment being installed, unless other experience requirements specific to that element of the Work are indicated elsewhere in the Contract Documents.
   3. Trades: Use of terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter", unless

otherwise indicated in the Contract Documents or required by Laws or Regulations. Such terminology also does not imply that specified requirements apply exclusively to trade personnel of the corresponding generic name.

4. "Assigned specialists" and similar terms: Certain Sections of the Specifications require that specific construction activities be performed by specialists with recognized, extensive experience in such operations. Engage said specialists for such activities, and their engagement is a requirement over which CONTRACTOR has no option. These requirements do not conflict with enforcement of building codes and other Laws and Regulations. Also, such requirements are not intended to interfere with local trade union jurisdictional settlements and similar conventions. Such assignments shall not relieve CONTRACTOR of responsibility for complying with the requirements of the Contract Documents.

1.3 APPLICABLE CODES

A. References in the Contract Documents to local code(s) shall mean the following:
   1. National Electric Code in effect at the location of the Project.
   2. NFPA 101, Life Safety Code.

1.4 ABBREVIATIONS

A. Common abbreviations that may be found in the Contract Documents are indicated below, alphabetically by their written-out meaning:

alternating current	a-c
ampere	A
antemeridian	a.m.
Architectural Barriers Act	ABA
Americans with Disabilities Act	ADA
Americans with Disabilities Act Accessibility Guidelines	ADAAG
ante meridian	a.m.
average	avg
biochemical oxygen demand	BOD
five-day biochemical oxygen demand	BOD_5
brake horsepower	bhp
British thermal unit	Btu
building information model	BIM
carbonaceous biochemical oxygen demand	CBOD
five-day carbonaceous biochemical oxygen demand	$CBOD_5$
chemical oxygen demand	COD
Centigrade (or Celsius)	C

chlorinated polyvinyl chloride		CPVC
chlorofluorocarbons		CFC
Code of Federal Regulations		CFR
computer-aided drafting and design		CADD, or CAD
cubic inch		cu in
cubic foot		cu ft
cubic yard		cu yd, or CY
cubic feet per minute		cfm
cubic feet per second		cfs
decibel		db
degree Centigrade (or Celsius)	(Write)	degrees C, ^{o}C, or deg C
degrees Fahrenheit		degrees F, ^{o}F, or deg F
diameter		dia
direct current		d-c
dollars		$
each		ea
efficiency		eff
Fahrenheit		F
feet		ft
feet per hour		fph, or ft/hr
feet per minute		fpm
feet per second		fps, or ft/min
figure		fig
flange		flg
foot-pound		ft-lb
gallon		gal
gallons per hour		gph, or gal/hr
gallons per minute		gpm
gallons per second		gps
gram		g
grams per liter		g/L
Hertz		Hz
horsepower		hp or HP
hour		hr
human-machine interface		HMI
inch		in.

inches of mercury	in. Hg
inches water gage	in. w.g.
inch-pound	in.-lb
inside diameter	ID
iron pipe size	IPS
thousand pounds	kips
thousand pounds per square inch	ksi
kilovolt-ampere	kva
kilowatt	kw
kilowatt-hour	kwhr or kwh
linear foot	lin ft or LF
liter	L
Leadership in Energy and Environmental Design (USGBC)	LEED
maximum	max
mercury	Hg
milligram	mg
milligrams per liter	mg/l or mg/L
milliliter	ml
millimeter	mm
million gallons per day	mgd or MGD
million gallon	MG
minimum	min
national pipe threads	NPT
net positive suction head	NPSH
net positive suction head available	NPSHA
net positive suction head required	NPSHR
nitrogen oxide (total concentration of mono-nitrogen oxides such as nitric oxide (NO) and nitrogen dioxide (NO_2))	NOx
nominal pipe size	NPS
number	no.
operator interface terminal	OIT
ounce	oz
ounce-force	ozf
outside diameter	OD
parts per hundred	pph
parts per million	ppm

parts per billion	ppb
polyvinyl chloride	PVC
post meridian	p.m.
pound	lb
pounds per square inch	psi
pounds per square inch absolute	psia
pounds per square inch gauge	psig
pounds per square foot	psf
process control system	PCS
programmable logic controller	PLC
revolutions per minute	rpm
second	sec
specific gravity	sp gr, or SG
square	sq
square foot	sq ft, sf, or ft^2
square inch	sq in., or in^2
square yard	sq yd, or SY
standard	std
standard cubic feet per minute	scfm
total dynamic head	TDH
totally-enclosed fan-cooled	TEFC
volt	V
volts alternating current	vac
volts direct current	vdc
volatile organic compounds	VOC

1.6 REFERENCE STANDARDS

A. Refer to Article 3 of the General Conditions, as may be modified by the Supplementary Conditions, relative to reference standards and resolving discrepancies between reference standards and the Contract Documents. Provisions of reference standards are in effect in accordance with the Specifications.

B. Copies of Standards: Each entity engaged in the Work shall be familiar with reference standards applicable to its construction activity. Copies of applicable reference standards are not bound with the Contract Documents. Where reference standards are needed for a construction activity, obtain copies of standards from the publication source.

C. Abbreviations and Names: Where reference standards, specifications, codes, manuals, Laws or Regulations, or other published data of international, national, regional or local organizations are referred to in the Contract Documents, the organization issuing the standard may be referred to by their acronym or abbreviation only. The following acronyms or abbreviations that may appear in the Contract Documents shall have the meanings indicated below. Listing is alphabetical by acronym.

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACS	American Chemical Society
ADSC-IAFD	International Association of Foundation Drilling.
AEIC	Association of Edison Illuminating Companies
AF&PA	American Forest and Paper Association
ABMA	American Bearing Manufacturers Association (formerly Anti-Friction Bearing Manufacturers Association (AFBMA))
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIChE	American Institute of Chemical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standards Committee
AMA	Acoustical Materials Association
AMCA	Air Movement and Control Association
AMP	National Association of Architectural Metal Manufacturers, Architectural Metal Products Division
ANSI	American National Standards Institute
APA	The Engineered Wood Association
APHA	American Public Health Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ARI	Air Conditioning and Refrigeration Institute
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers

ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
ASQ	American Society for Quality
ASSE	American Society of Safety Engineers
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industry
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BAAQMD	Bay Area Air Quality Management District
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association
CBMA	Certified Ballast Manufacturers Association
CDA	Copper Development Association
CEMA	Conveyor Equipment Manufacturers Association
CGA	Compressed Gas Association
CISCA	Ceilings and Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CMAA	Crane Manufacturers Association of America
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
DIN	Deutsches Institut fur Normung eV (German Institute for Standardization)
DIPRA	Ductile Iron Pipe Research Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ETL	Intertek Testing Services, Inc. (formerly ETL Testing Laboratories, Inc.)
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Factory Mutual (FM Global)
FRPI	Fiberglass Reinforced Plastics Institute
FS	Federal Specification

GA	Gypsum Association
GANA	Glass Association of North America
HEW	United States Department of Health, Education and Welfare
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute
HUD	United States Department of Housing and Urban Development
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IFI	Industrial Fasteners Institute
IRI	Industrial Risk Insurers
ISA	Instrumentation, Systems, and Automation Society (formerly Instrument Society of America)
ISO	Insurance Services Office
ISO	International Organization for Standardization
LPI	Lightning Protection Institute
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSS	Manufacturers' Standardization Society
MMA	Monorail Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NAPF	National Association of Pipe Fabricators, Inc.
NARUC	National Association of Regulatory Utilities Commissioners
NBHA	National Builders Hardware Association
NBS	United States Department of Commerce, National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electric Code
NELMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
NGA	National Glass Association

NHLA	National Hardwood Lumber Association
NHPMA	Northern Hardwood and Pine Manufacturers Association
NIST	United States Department of Commerce, National Institute of Standards and Technology
NLGA	National Lumber Grades Authority
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NSSGA	National Stone, Sand, and Gravel Association
NTMA	National Terrazzo and Mosaic Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PEI	Porcelain Enamel Institute
PFI	Pipe Fabrication Institute
PPI	Plastics Pipe Institute
PGMC	Primary Glass Manufacturers Council
PS	Product Standards Section, United States Department of Commerce
RCSC	Research Council on Structural Connections (part of AISC)
RMA	Rubber Manufacturers Association
SAE	Society of Automotive Engineers
SCAQMD	Southern California Air Quality Management District
SCPRF	Structural Clay Products Research Foundation
SCTE	Society of Cable Telecommunications Engineers
SDI	Steel Deck Institute
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturing Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractor’s National Association
SPI	Society of the Plastics Industry
SPIB	Southern Pine Inspection Bureau
SSPC	Society for Protective Coatings
SWI	Steel Window Institute
TCNA	Tile Council of North America
TEMA	Tubular Exchanger Manufacturers Association
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
UL	Underwriters Laboratories, Inc.

USAB	United States Access Board
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
USGBC	United States Green Building Council
USGS	United States Geological Survey
USPHS	United States Public Health Service
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WCMA	Wood Component Manufacturers Association
WDMA	Window and Door Manufacturers Association
WEF	Water Environment Federation
WWEMA	Water and Wastewater Equipment Manufacturers Association
WWPA	Western Wood Products Association

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 45 29

TESTING LABORATORY SERVICES FURNISHED BY CONTRACTOR

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This section includes requirements for sampling services furnished by the CONTRACTOR for sampling, analysis, and reporting, or as provided in the supplementary conditions.
   2. CONTRACTOR shall employ and pay for services of independent testing laboratory to perform specified services.
   3. Inspection, sampling, and testing shall be as specified in the Specifications including but not limited to:
      a. 31 05 16 Aggregates for Earthwork
      b. 31 05 17 Evapotranspiration Cover Layer

   3. CONTRACTOR shall pay for:
      a. Tests not specifically indicated in the Contract Documents as being DEPARTMENT ’s or ENGINEER’s responsibility.
      b. Tests made for CONTRACTOR’s convenience.
      c. Repeat tests required because of CONTRACTOR’s negligence or defective Work and retesting after failure of test for the same item to comply with the Contract Documents.
   4. Testing laboratory is not authorized to approve or accept any portion of the Work or defective Work; rescind, alter, or augment requirements of Contract Documents; and perform duties of CONTRACTOR.

1.2 REFERENCES

A. Standards referenced in this Section are:
   1. New York State Analytical Services Protocol (ASP)
   2. NYSDEC Technical Guidance for Site Investigation and Remediation DER-10, Appendix 2-B

1.3 QUALITY ASSURANCE

A. Qualifications:
   1. Testing Laboratory:
      a. Comply with applicable requirements of New York State Department of Environmental Conservation, DER-10 Technical Guidance for Site Investigation and Remediation (May 2010)
      b. Testing laboratory shall be NYSDOH ELAP certified.

1.4 SUBMITTALS

A. Informational Submittals: Submit the following:

1. Sampling Plan and Quality Control Project Plan Submittals: The sampling Plan shall include the following:
    a. A chart and/or map indicating the approximate number of samples to be collected and the matrices of each, including anticipated QA/QC samples.
    b. Procedures for sample collection.
    c. Description of sampling equipment and maintenance procedures for the equipment.
    d. Procedures for decontamination of sampling equipment.
    e. Sample handling, labeling and regulatory compliance procedures for shipping.
    f. Training requirements for environmental sampling for new employees and refresher training requirements for current employees.
2. The QAPP shall be project specific and include the following:
    a. Organizational chart, including a designated QA Officer.
    b. Data quality objectives for the site.
    c. A chart reflecting types of samples, approximate number of samples, matrices, holding times, analytical protocols and anticipated QA/QC samples to be collected or analyzed.
    d. Specific limits of concern for each analyte for each matrix to be sampled.
    e. The matrix specific method detection limit that must be obtained for each of the analytes and matrices listed.
    f. The analytical laboratory to be used and evidence of their certification for all subcategories of solid and hazardous waste, including CLP metals, under the NYSDOH ELAP CLP.
    g. Criteria for laboratory selection and audits.
    h. Criteria for field sampling audits.
    i. Record maintenance and archive methods.
    j. Review and checking procedures for the sampling plan and the analytical results reporting.
    k. Copy of the QAO's resume and training certificates. QAO must be proficient in analytical methodology, data interpretation and validation, quality control procedures and auditing techniques. The QAO shall interface with laboratory and data validator to make requests and or resolve issues specific to data usability.
3. Test Reports: Testing laboratory shall promptly submit to CONTRACTOR results of testing and inspections, including:
    a. Date issued.
    b. Project title, number, and name of the Site.
    c. Testing laboratory name and address.
    d. Name and signature of inspector or person obtaining samples.
    e. Date of inspection or sampling.

f. Record of temperature and weather conditions.
g. Date of test.
h. Identification of material or item tested, and associated Specifications Section.
i. Location in the Project.
j. Type of inspection or test.
k. Results of tests and observations regarding compliance with this section and supplementary sections, as applicable
j. Category B deliverables for the reporting of deliverables package as per Volume 1 of the NYSDEC ASP.
i. Electronic deliverables shall conform to DER-10, Appendix 2B requirements.

4. Qualifications Statements:
   a. Testing Laboratory:
      1) NYSDOH ELAP certification. – Analytical Labs
      2) Statement of Qualifications – Geotechnical Labs

1.5 TESTING LABORATORY DUTIES

A. Testing laboratory shall:
1. Complete analytical services in compliance with NYSDOH ELAP certification and NYSDEC ASP Protocol.
2. Perform required inspections, sampling, and testing of materials and methods of construction; comply with applicable reference standards and the Contract Documents; and ascertain compliance with requirements of the Contract Documents.
3. Promptly notify ENGINEER and CONTRACTOR of irregularities or deficiencies in the Work that are observed during performance of services.
4. Promptly submit to CONTRACTOR reports of inspections and tests.
5. Perform additional tests and services, as required by CONTRACTOR.
6. Data deliverables shall conform to Guidance for Data Deliverables, DER-10 Appendix 2-B.

1.6 CONTRACTOR'S RESPONSIBILITIES

A. CONTRACTOR shall:
1. Cooperate with testing laboratory personnel.
2. Provide to testing laboratory preliminary representative samples of materials and items to be tested, in required quantities.
3. Promptly submit to ENGINEER results of tests and inspections received from testing laboratory.
4. Furnish to laboratory the preliminary design mix proposed for concrete and other material mixes to be tested by testing laboratory.
5. Provide labor and facilities:
   a. For access to the Work to be tested, and where required, to Suppliers' operations.

b. For obtaining and handling samples at the Site.
c. For facilitating inspections and tests.
d. For testing laboratory's exclusive use for storing and curing of test samples.
e. Forms for preparing concrete test beams and cylinders.

6. Notify laboratory and ENGINEER sufficiently in advance of operations to allow assignment of personnel and scheduling of tests.
7. Arrange with laboratory and pay for additional services, sampling, and testing required for CONTRACTOR's convenience.
8. Confirm that analytical data deliverables conform to DER-10, Appendix 2B prior to submittal to the ENGINEER for review.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 51 05

TEMPORARY UTILITIES AND CONTROLS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide all temporary utilities and temporary facilities required for the Project, including the following:
      a. Electricity.
      b. Lighting.
      c. Telephone and communications.
      d. Heating, cooling, ventilating, and temporary enclosures.
      e. Water.
      f. Fire protection.
   2. Make all arrangements with utility owners for temporary utilities and with others as appropriate for temporary facilities. Obtain required permits and approvals for temporary utilities and temporary facilities.
   3. Pay all service costs for utilities and facilities indicated in this Section as CONTRACTOR's responsibility, including cost of electricity, water, fuel, and other utility services and temporary facilities required for the Work.
   4. At minimum, provide and maintain temporary utilities and temporary facilities through Substantial Completion unless otherwise approved in writing by ENGINEER.
   5. Maintain, including cleaning, temporary utilities and temporary facilities, and continuously provide consumables (i.e. potable water, soap, paper towels, toilet paper, etc.) as required.
   6. Temporary utilities and temporary facilities shall be adequate for personnel using the Site and the needs of the Project.
   7. Provide temporary utilities and temporary facilities in compliance with Laws and Regulations and, when applicable, requirements of utility owners.

1.2 REQUIREMENTS FOR TEMPORARY UTILITIES AND TEMPORARY FACILITIES

A. Electrical:
   1. Provide temporary electrical service required for the Work, including continuous power for temporary field offices and sheds. Provide temporary outlets with circuit breaker protection and ground fault protection.
   2. Provide written plan for electrical service including; approved service requests and work orders; as applicable
   3. Provide materials that comply with applicable NEMA, NECA, and UL standards and governing regulations of temporary electrical services.

4. Provide grounded extension cords with waterproof connectors. Use "hard service" cords where there is exposure to abrasion and traffic.
5. Provide general service lamps and guard cages or tempered glass enclosures where lamp is exposed to breakage by removal operations. Use liquid-tight enclosures or boxes for the devices.
6. The CONTRACTOR shall provide a weatherproof, grounded temporary electrical power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of the work.
7. Install overload protection and disconnect switches for each temporary circuit at the power source.
8. Install all cable or extension cords in the work area in such a manner that visual surveillance is easily accomplished.

B. Lighting.
1. Provide lighting at the Site of not less than five foot-candles for open areas and not less than ten foot-candles for stairs and shops. Provide not less than one, 300-watt lamp every 15 feet in indoor work areas. Provide night security lighting of not less than five foot-candles within 50 feet of all parts of the Site during hours of darkness, controlled by photocell.
2. Do not work in areas with insufficient lighting. Where lighting is insufficient for the work activities to be performed, provide additional temporary lighting.
3. Provide temporary lighting sufficient for observation of the Work by ENGINEER and inspection by CONTRACTOR and authorities having jurisdiction. Where required by ENGINEER, provide additional temporary lighting.
4. Provide temporary lighting for ENGINEER’s field office in accordance with Section 01 52 11, ENGINEER’s Field Office.

C. Telephone and Communications.
1. Provide temporary telephone and communications required for CONTRACTOR’s operations at the Site and for summoning emergency medical assistance.
2. Provide temporary telephone and communications for ENGINEER’s field office in accordance with Section 01 52 11, ENGINEER’s Field Office.

D. Heating, Ventilating, and Enclosures.
1. Provide sufficient temporary heating, cooling, ventilating, and enclosures to ensure safe working conditions and prevent damage to existing facilities and the Work.
2. Maintain temperature of areas occupied by DEPARTMENT ’s personnel or electronic equipment, including offices, lunch rooms, locker rooms, toilet rooms, and rooms containing computers, microprocessors, and control equipment, between 65 degrees F and 80 degrees F with relative humidity less than 75 percent.
4. Required temperature range for storage areas and certain elements of the Work, including preparation of materials and surfaces, installation or application, and

curing as applicable, shall be in accordance with the supplementary conditions for the associated Work and/or the Supplier's recommended temperature range for storage, application, or installation, as appropriate.

5. Provide temporary ventilation sufficient to prevent accumulation in construction areas and areas occupied by DEPARTMENT of hazardous and nuisance levels or concentrations of dust and particulates, mist, fumes or vapors, odors, and gases, associated with construction.
6. Provide temporary enclosures and partitions required to maintain required temperature and humidity.
7. Provide temporary heating, ventilating, and cooling for ENGINEER's field office in accordance with Section 01 52 11, ENGINEER's Field Office.

E. Water:

1. General:
    a. Provide temporary water facilities including piping, valves, meters if not provided by DEPARTMENT of existing waterline, backflow preventers, pressure regulators, and other appurtenances. Provide freeze-protection as required.
    b. Continuously maintain adequate water flow and pressure for all purposes during the Project, until removal of temporary water systems.
2. Water for Construction Purposes:
    a. Provide water for Site maintenance and cleaning and, water necessary for construction activities, and water for disinfecting and testing of systems.
    b. CONTRACTOR may use existing hose bibbs for short-term wash-downs and intermittent use of water for work areas in the existing building. Obtain consent of ENGINEER and DEPARTMENT if connections to existing hose bibbs and similar existing connections will be used for more than one day at a time.
3. Water for Human Consumption and Sanitation:
    a. Provide potable water in accordance with NYSDOH Laws and Regulations for consumption by personnel at the Site, for field offices, and for sanitary facilities.
    b. When necessary, provide bottled, potable water for use and consumption by personnel at the Site, including CONTRACTOR, ENGINEER, and visitors to the Site.
    c. Provide temporary water for ENGINEER's field office in accordance with Section 01 52 11, ENGINEER's Field Office.
    d. Provide separate sanitary facilities for males and females.

F. Fire Protection.

1. Provide temporary fire protection, including portable fire extinguishers rated not less than 2A or 5B in accordance with NFPA 10, Portable Fire Extinguishers, for each temporary building and for every 3,000 square feet of floor area under construction.
2. Provide Class A (ordinary combustibles), Class B (combustible liquids and gases), and Class C (electrical equipment) fire extinguishers as necessary.

3. Comply with NFPA 241, Standard for Safeguarding Construction, Alternation, and Demolition Operations, and requirements of fire marshals and authorities having jurisdiction at the Site.
4. Provide temporary fire protection for ENGINEER's field office in accordance with Section 01 52 11, ENGINEER's Field Office.

G. Staging Ares:
1. Staging areas (if required) shall be located on the site in areas (exclusion zone) approved by the ENGINEER in order to minimize possible cross contamination.
2. The staging areas for waste materials shall have a lined bottom with a minimum 40-mil sealed, HDPE watertight liner or 20-mil pre-seamed LLDPE liner, as approved by the ENGINEER. Remove the liners when the staging area is no longer needed and dispose off-site.
3. Waste materials shall be covered at all times with a minimum 6-mil poly liner sealed, watertight liner to prevent contaminated runoff. Remove the liners when the staging area is no longer needed and dispose off-site.
4. All staging areas shall be constructed to prevent the spread of any contamination to the surrounding soils, surfaces, and/or groundwater.
5. Water spray or equivalent shall be utilized as necessary to prevent dust generation. Monitoring shall be provided to ensure that unacceptable levels of dust generated from the movement and handling of soil do not migrate from the site.
6. Shop Drawings of all staging areas shall be submitted by the CONTRACTOR to the ENGINEER for review and approval prior to the start of work.
7. The CONTRACTOR shall decontaminate staging areas on concrete pads as directed by the ENGINEER.
8. Clean soil staging areas: Can be located outside the exclusion zone over non-remedial areas, as applicable, erosion controls shall be maintained at the perimeter of piles. Long-term storage of piles may require additional stabilization measures, as directed by the ENGINEER or required in the supplementary conditions.
9. Materials staging area: provide and maintain material staging areas as needed in locations indicated on the CONTRACTOR's work site layout, or as approved by the ENGINEER.

H.

I. Temporary (Work Zone) Fencing:
1. Work Zone Fencing, unless otherwise detailed in the supplementary conditions, provide a temporary, secure 4-foot high, high strength polyethylene orange plastic fence around the operations and work areas to control access. Fence posts shall be a minimum of 5- feet in total length and shall adequately support the fence and prevent leaning. Fence posts shall be set a maximum 10 feet apart.

2. Perimeter Fencing, unless otherwise detailed in the supplementary conditions, shall consist of temporary or driven post fence panels a minimum of 6-feet in height. Privacy screening shall be provided

J. Water Control:
1. Comply with procedures outlined in the NYSDEC Stormwater Management Design Manual.

K. Pollution Control:
1. Maintain work areas on and off site free from further environmental pollution that would be in violation of any federal, state, or local regulations.
2. Minimize air pollution by wetting down bare soils with clean water, requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by CONTRACTORS, and encouraging shutdown of motorized equipment not actually in use.
3. Any emissions during site activities that may have an adverse health effect on workers or the community shall be suppressed to the extent possible.
4. Chemicals used, whether herbicide, pesticide, disinfectant, polymer, reactant, or other classification, must be approved by either the DEPARTMENT or any other applicable regulatory agency and the ENGINEER and be used in a manner as their original purpose was intended.
5. Use of such chemicals and disposal of residues shall be in conformance with manufacturers' instructions.
6. Use of chemicals must be approved in advance by the ENGINEER.
7. Disposal of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) in storm or sanitary sewer system or into streams or waterways is not permitted.
8. Volatile wastes generated will be handled as hazardous wastes and reported to NYSDEC.
9. The CONTRACTOR shall provide that the generated project hazardous waste (if any) and any existing hazard waste to be removed under this project shall be transported, manifested, and disposed in accordance with the current regulations.
10. More specific requirements are given in other sections of this document.

L. Traffic Control:
1. The CONTRACTOR shall maintain all on-site temporary roads necessary for performance of the Work. Temporary access roads will be repaired as necessary to insure unimpeded daily operations. This may include at a minimum, routine grading and repairs to areas subject to settling resulting from site-related traffic.
2. Park vehicles in areas designated and approved in the Work Plan.
3. Keep the designated parking areas clear of dirt and debris resulting from the work.

M. Rubbish Control (Noncontaminated)

1. Clean up the debris resulting from the work at the end of each day and leave work areas broom clean. Locate containers where directed.
2. Remove debris from the site at least once a week or more often if it presents a fire hazard or becomes excessive. Burning of waste material will not be permitted.
3. Containers shall have secure tops.

N. Protection of Natural Resources:
   1. General:
      a. Preserve the natural resources within the project site that are not specified for removal or change or in accordance with supplementary permit conditions.
      b. Preserve the natural resources outside the project site impacted by the work.
      c. Conform to federal, state and local permitting requirements.
      d. Restore disturbed resources to an equivalent or improved condition upon completion of work.
      e. Vehicles, equipment and machinery delivered or used at the site that have visible oil or hydraulic leaks will not be allowed on site. Clean up any oil or hydraulic fluid spills immediately.
   2. Land Resources:
      a. Except in areas specified to be cleared, do not remove, cut, deface, injure, or destroy existing vegetation.
      b. Protect vegetation, that is to remain, from damage by construction operations.
      c. Vegetation, intended to remain, that is scarred or damaged by construction operations shall be removed and replaced with equivalent undamaged vegetation.
      d. Removal of scarred or damaged vegetation shall be in accordance with the specifications.
      e. Trees or shrubs with 30 percent or more of their root systems damaged shall require removal and replacement.
      f. Replacement vegetation shall be approved by the ENGINEER before replacement.
   3. Water Resources:
      a. Prevent oily or hazardous substances from entering the ground, drainage areas, or local bodies of water.
      b. Provide secondary containment of temporary fuel oil, petroleum, or hazardous substance storage tanks of sufficient size and strength to contain the contents of the tanks.
   4. Fish and Wildlife Resources:
      a. Do not alter or significantly disturb water flows on or adjacent to the project site, except as indicated or specified.
      b. Do not alter or significantly disturb native habitat on or adjacent to the project site, except as indicated or specified.
      c. Conformance with supplementary permit conditions, as applicable.

O. Noise, Vibration and Dust Control:

1. Conduct operations in compliance with applicable local noise ordinance.
2. Dust shall be controlled in compliance with approved CONTRACTOR's Vapor Control Emissions Plan, Community Health and Safety Plan, and Site-Specific Health and Safety Plan (SSHASP), or otherwise directed by the DEPARTMENT.
3. Equip compressors, hoists, and other apparatus with such mechanical devices as may be necessary to minimize noise, vibration and dust. Equip compressors with silencers on intake lines.
4. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.
5. Provide unpaved roads, detours, or haul roads used in construction areas with water treatment to minimize dust. No visible dust, as determined by the ENGINEER, will be permitted beyond the limits of the exclusion zone.
6. CONTRACTOR is responsible for providing all sound barriers needed to meet the requirements of these specifications. CONTRACTOR is responsible for all costs related to the manufacturer's representatives or consultants (contractors) who specialize in addressing such problems.
7. Control noise levels associated with site operations in accordance with local noise ordinances.
8. Measure noise levels in decibels with a sound level meter conforming to the American National Standard Specification.
9. Measurements shall be made at site perimeter.
10. Measurements shall be continuous during the first week of construction activities. Additional measurements may be directed by the ENGINEER throughout the course of the project.
11. Measurements shall be documented and reported to the ENGINEER.
12. If the Leq levels are not maintained the CONTRACTOR shall take appropriate measures to bring the noise under control at no additional cost to the DEPARTMENT.
13. Comply with DER-10, Appendix 1A.

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Materials and equipment for temporary utilities and temporary facilities may be new or used but shall be adequate for purposes intended and shall not create unsafe conditions and shall comply with Laws and Regulations.

B. Provide required materials, equipment, and facilities, including piping, cabling, controls, and appurtenances.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install temporary utilities and temporary facilities in neat, orderly, manner, and make structurally, mechanically, and electrically sound throughout.

B. Location of Temporary Utilities and Temporary Facilities:
   1. Locate temporary systems for proper function and service.
   2. Temporary systems shall not interfere with or provide hazards or nuisances to: the Work under this and other contracts, movement of personnel, traffic areas, materials handling, hoisting systems, storage areas, finishes, and work of utility DEPARTMENT s and others.
   3. Do not install temporary utilities on the ground, with the exception of temporary extension cords, hoses, and similar systems in place for short durations.

C. Modify and extend temporary systems as required by progress of the Work.

3.2 USE

A. Maintain temporary systems to provide safe, continuous service as required.

B. Properly supervise operation of temporary systems:
   1. Enforce compliance with Laws and Regulations.
   2. Enforce safe practices.
   3. Prevent abuse of services.
   4. Prevent nuisances and hazards caused by temporary systems and their use.
   5. Prevent damage to finishes.
   6. Ensure that temporary systems and equipment do not interrupt continuous progress of construction.

C. At end of each work day check temporary systems and verify that sufficient consumables are available to maintain operation until work is resumed at the Site. Provide additional consumables if the supply on hand is insufficient.

3.3 REMOVAL

A. Completely remove temporary utilities, temporary facilities, equipment, and materials when no longer required. Repair damage caused by temporary systems and their removal and restore the Site to condition required by the Contract Documents; if restoration of damaged areas is not specified, restore to preconstruction condition.

B. Where temporary utilities are disconnected from existing utility, provide suitable, watertight or gastight (as applicable) cap or blind flange, as applicable, on service line, in accordance with requirements of utility owner .

C. Where permanent utilities and systems were used for temporary utilities, upon Substantial Completion replace all consumables such as filters and light bulbs and parts used during the Work.

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SECTION 01 52 11

ENGINEER'S FIELD OFFICE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for CONTRACTOR-provided field office, with furnishings, equipment, and consumables, for use by ENGINEER.
   2. CONTRACTOR shall provide and maintain field office for ENGINEER's sole use. Provide field office at location approved by ENGINEER, near CONTRACTOR's field office.
   3. Field office shall be complete and fully functional within 10 days after date on which the Contract Times commence or ENGINEER approved mobilization date, unless the schedule is otherwise modified in accordance with the General Conditions.
   4. Obtain required permits for field offices, as applicable.

1.2 SUBMITTALS

A. Action Submittals: Obtain ENGINEER's approval of the following prior to staging field office to the Site:
   1. Field Office Submittal: Submit the following under one submittal cover:
      a. Site plan indicating proposed location of field office, parking for field office, facilities related to the field office, and material of both field office parking and sidewalk or walkway to field office.
      b. Information on proposed field office size, construction, exterior appearance, interior finishes, and field office security measures.
      c. Proposed layout of field office interior, showing location of offices, common areas, restroom, closet, other areas specified (if any), with dimensions indicated for each.
      d. Proposed layout of field office exterior identifying sign, showing all text, font, colors, and graphics (if any).
      e. Proposed type of Internet service; name of proposed Internet service provider; and product data and technical information on equipment (if any) required for Internet service.
      f. Office Equipment: Product data and technical information for copier, telephones, and other office equipment.

PART 2 – PRODUCTS

2.1 FIELD OFFICE CONSTRUCTION AND SITE REQUIREMENTS

A. Site at Field Office:
   1. Allocate total of four reserved parking spaces for use by ENGINEER and DEPARTMENT in close proximity to ENGINEER's field office. Parking area shall be paved with bituminous paving, concrete, crushed stone, or other material approved by ENGINEER. Parking area shall be suitably drained and free of standing water during wet weather.
   2. Provide sidewalk or walkway, not less than four feet wide, of bituminous pavement, concrete, crushed stone, or other material approved by ENGINEER, for the full distance between parking area and field office.

B. Field Office, Minimum Construction: Field office shall comply with the following:
   1. Structurally sound foundation and superstructure.
   2. Size: Floor area of not less than 430 square feet, and not less than 10 feet wide.
   3. Completely weather-tight and insulated, with minimum R-19 insulation.
   4. Exterior finish approved by ENGINEER.
   5. New interior finishes approved by ENGINEER, including resilient floor covering in good condition.
   6. Field Office Ingress and Egress:
      a. Two doors for ingress and egress for each field office unit, each with landing, stairs, and railing complying with building codes and other Laws and Regulations in effect at the Site.
      b. Landing and stairs shall have slip-resistant walking surfaces, and be metal, pressure-treated wood, fiberglass, or concrete.
      c. Railing shall be metal, wood, or fiberglass.
      d. Door Security:
         1) Doors shall be secure and lockable.
         2) Furnish each door with suitable, lockable security bar. Security bar shall be Master Lock 265DCCSEN Dual-Function Security Bar, or equal.
   7. Windows:
      a. Window area equal to not less than ten percent of floor area.
      b. Windows shall each have insect screen and operable sash.
      c. Provide each window with lock and exterior security bars approved by ENGINEER.
   8. One lockable closet for storage.
   9. Keys:
      a. Furnish to ENGINEER two identical sets of keys suitable for operating all keyed locks, including ingress/egress door locks, security bars for doors, window locks, closets, and office furnishings.
      b. Permanently label each key to indicate its associated lock.

10. Restroom:
    a. Provide in field office one private restroom including one lavatory, one toilet, medicine cabinet with mirror, soap dispenser, and paper towel holder.
    b. Provide each restroom with appropriate electric ventilation fan with positive discharge to location outside the field office.
    c. Portable units and hand washing stations may be provided, as equivalent, as approved by the ENGINEER.
11. Exterior Sign:
    a. Field office identifying exterior sign, approved by ENGINEER. Sign shall be durable, weatherproof, suitable for long-term exposure to sunlight.
    b. Exterior sign shall be not less than 1.5 feet high by four feet wide, installed at location determined in field and acceptable to ENGINEER.
    c. Sign shall be in color, as presented in the layout below.
    d. Sign layout and general proportions shall be as presented below. Text of first line and last line shall be Arial. Text size and size of graphic shall be proportionate to the graphic below. ENGINEER will furnish graphic as JPG file for use by CONTRACTOR in preparing the sign.

C. Field Office Optional Construction:
1. Provide mobile office trailer in first-class condition approved by ENGINEER, specifically designed for use as construction field office and complying with requirements of this Section.
2. Provide skirting around perimeter of each mobile field office trailer.
3. Supplier: Provide field office by one of the following:
    a. Pac-Van, Inc.
    b. Modular Space Corporation (ModSpace).
    c. Williams Scotsman, Inc.
    d. Or equal.

2.2 FIELD OFFICE UTILITIES

A. Comply with Section 01 51 05, Temporary Utilities.

B. Provide the following for the ENGINEER's field office:
1. Electrical System and Lighting:
    a. Electric service as required, including paying all costs. Provide electrical submeter if electrical service is obtained from DEPARTMENT's system.
    b. Interior lighting of not less than 50 foot-candles at desktop height.
    c. Minimum of eight 120-volt, wall-mounted, duplex convenience electrical receptacles.
    d. Exterior, wall-mounted lighting at each entrance to field office, not less than 250 watts each.
    e. Exterior security light for ENGINEER's field office parking area. Provide one 1000-watt, pole-mounted fixture with photocell control.

2. Heating, Ventilating, and Air Conditioning System:
    a. Provide automatic heating to maintain indoor temperature in field office of not less than 65 degrees F in cold weather. Furnish all fuel and pay all utility costs.
    b. Automatic cooling to maintain indoor temperature in field office of not warmer than 75 degrees F in warm weather.
3. Water and Sewerage:
    a. Provide potable water service for each plumbing fixture associated with field office.
    b. Provide sanitary sewerage for each lavatory/sink and toilet.
    c. Utility Connections – General:
        1) Comply with Laws and Regulations, including plumbing and sewer codes, and requirements of authorities having jurisdiction.
        2) Protect plumbing from freezing.
    c. Potable Water Service: Provide the following:
        1) Type K copper waterline from potable water main to each plumbing fixture.
        2) Reduced pressure zone (RPZ)-type backflow preventer in accordance with Laws and Regulations and requirements of authorities having jurisdiction.
        3) Provide 15-gallon electric hot water tank or tankless hot water heater, and hot water piping to serve each lavatory/sink in field office.
        4) Not less than one exterior hose bib, with not less than 50 feet of hose, located adjacent to field office sidewalk or walkway, near field office ingress/egress doors. Provide wall-mounted hose reel or hose caddy.
        5) Before placing potable water system into service, disinfect piping and appurtenances in accordance with Laws and Regulations.
    d. Sanitary Sewerage:
        1) Provide PVC or other appropriate piping, arranged in accordance with Laws and Regulations, to convey wastewater from field office to sanitary sewer that discharges to a permitted wastewater treatment facility, or to holding tank provided by CONTRACTOR.
        2) When holding tank is provided, also provide pumping and disposal of holding tank contents at appropriate, regular intervals.
4. Telephone Service:
    a. Land Lines:
        1) Private telephone service for ENGINEER's sole use, including payment of installation, monthly, and service costs.
        2) Provide two telephone lines as follows: one for phone Each line shall have separate telephone number assigned by the telephone service provider.
        3) Pay for unlimited local and domestic long distance service for duration of the Project.
        4) As approved by the ENGINEER, mobile devices may replace Land Service Lines. Portable Bluetooth conferencing capabilities shall be provided to facilitate group conferencing.

b. Cellular Telephones and Service: ENGINEER will provide cellular telephones and service for ENGINEER's employees assigned to the field office, as approved by the ENGINEER, may substitute land lines. Portable Bluetooth conferencing capabilities shall be furnished to the CONTRACTOR to facilitate

5. Internet Access:
   a. Obtain and pay for Internet service until removal of the field office, with unlimited (untimed) Internet access, for ENGINEER's sole use.
   b. Set up system and appurtenances required and verify functionality in the field office.
   c. Internet service shall be one of the following, listed in order of preference; provide a lower type of access only when the next-higher level is unavailable:
      1) Fiber-optic or Cable Provider Service:
         a) Provide service via communication service provider via either cable or fiber-optic service at download speed of not less than 15 megabytes per second (Mbps) and upload speed of not less than 1 Mbps.
         b) Provide appropriate modem, cabling, and appurtenances.
      2) DSL:
         a) Provide service via symmetrical digital subscriber line with download speed of not less than 1.5 Mbps and upload speed of not less than 384 kilobits per second (Kbps).
         b) Provide dedicated telephone line for Internet access.
         c) Provide DSL filters on each non-DSL outlet in the field office telephone system.
      3) Mobile Broadband Wireless:
         a) Provide mobile broadband wireless 4G network by AT&T, Verizon, Sprint, T-Mobile, or equal, with download speed of not less than 37 Mbps and upload speed of not less than 17 Mbps.
         a) Provide mobile broadband wireless router. Product and Manufacturer: Linksys Wireless-G Router for Mobile Broadband, or equal.
         b) Mobile broadband air-card for field office. Product and Manufacturer: Sierra Wireless 597E, Novatel Merlin EX720, or equal.
         c) Router and air-card will remain CONTRACTOR's property upon removal of field office from the Site.
      4) Satellite:
         a) Provide 4G network service with download speed of not less than 12 Mbps.
         b) Provide required equipment, including outdoor unit (dish) and indoor satellite modem equipment, together with required cabling.
         c) Provide telephone modem in computer, together with telephone line and service, for file uploading.

C. Should actions of utility companies delay the complete set up of field office, CONTRACTOR shall provide temporary electricity, heat, water supply, sanitary facilities, and telephone service as required at no additional cost to DEPARTMENT.

2.3 FURNISHINGS AND EQUIPMENT

A. Provide the following furnishings and equipment:
   1. Desks: Two 5-drawer desks, each with desktop surface five feet long by 2.5 feet wide with not less than one file drawer per desk, suitable for storing 8.5-inch by 11-inch documents.
   2. Desk Chairs: Two new or used (in good condition) five-point, high backed, cushioned swivel chairs with seat-height adjustment.
   3. Other Chairs: Four side chairs with arm rests and padded seats and backs, and eight metal folding chairs without arm rests.
   4. Two new or used (in good condition) folding tables each eight feet long by 2.5 feet wide.
   5. Two new or used (in good condition) folding tables each four feet long by 2.5 feet wide.
   6. Plan rack(s) to hold not less than eight sets of the Drawings.
   7. Two 4-drawer file cabinets.
   8. One 2-door storage cabinet.
   9. Shelving or bookcase with a total of 12 feet of shelf length and not less than 12 inches deep.
   10. Four polyethylene waste baskets, each with capacity of not less than seven gallons.
   11. Suitable doormat at each exterior ingress/egress door.
   12. Two cork tack-boards, each 2.5 feet by three feet, with thumbtacks.
   13. One white board for use with dry markers, approximately six feet by four feet, with marker holding tray, installed by CONTRACTOR at location directed by ENGINEER in the field office. Furnish supply of colored markers and eraser for the white board.
   14. Safety Equipment: Provide the following:
      a. Fire extinguishers with associated signage.
      b. Smoke detector with supply of batteries.
      c. Carbon monoxide detector with power supply.
      d. Provide in accordance with Laws and Regulations. For each field office structure, provide not less than two wall-mounted fire extinguishers, one battery-operated ceiling-mounted smoke detector, and one carbon monoxide detector suitably installed.
   15. First-Aid Station:
      a. In addition to first-aid stations otherwise required by the Contract Documents, provide for ENGINEER's sole use a first-aid station in ENGINEER's field office.
      b. Product and Manufacturer: Zee Medical USA, Item 0152, "Medium Four-Shelf Plastic Cabinet", www.zeemedical.com; or equal.

16. Weather Monitoring Station:
    a. Monitoring Capability: System shall measure: wind speed, wind direction, outdoor temperature, wind chill, time, date, indoor temperature, and rainfall.
    b. Manufacturer and Product:
        1) Weather Monitoring Station: Provide Peet Bros. ULTIMETER 100; or equal.
        2) Rain Gauge: Provide Peet Bros. ULTIMETER PRO Rain Gauge, or equal.
    c. Sensors:
        1) Cable-mounted sensors installed outdoors. Wireless systems are unacceptable.
        2) Vane-type wind sensor equipped with 40-foot cable, accurate to wind speeds as low as 1.5 mph.
        3) Temperature sensor, installed in the shade, equipped with 25-foot cable.
        4) Provide rain gauge for monitoring rainfall/precipitation, with 40-foot cable. Rain gauge shall be suitable for use in winter weather and accurate to 0.01-inch.
        5) Sensors and cabling shall be compatible with the weather monitoring recording/display unit.
        6) Install sensors at appropriate locations, agreed upon at the Site with ENGINEER, for optimal monitoring of weather. Provide required poles and mounting brackets as required for installation of sensors.
    d. Recording/Display Unit: Unit shall have keyboard and data display, featuring maximums and minimums of all data monitored, displayed and stored in-unit for the following periods: current day, each of the previous seven days, and long-term. Display and record time and date for each recorded maximum and minimum. Individually-resettable memories and master-reset capability to clear all memory.
    e. Appurtenances:
        1) Provide data logging capability to allow data to be transmitted to and displayed on personal computer in ENGINEER's field office. Provide data relay capability to transmit data to such computer.
        2) Provide required appurtenances including junction boxes, 120-volt power supply with transformer, all required cords and cabling, and mounting brackets and hardware.
    f. Provide all items and Work necessary for a fully-operational unit with properly-functioning capability as specified.
17. Personal Protective Equipment for Visitors: Furnish the following:
    a. Protective Helmets (Hard Hats): Four, each with full brim, of fiberglass or thermoplastic; each with ratchet suspension; white in color.
    b. Safety Glasses: Four, each with clear lenses, polycarbonate, anti-fog and anti-scratch coating, suitable to fit over personal eyewear.

c. Reflective Safety Vest: Four, each of polyester mesh or other material acceptable to ENGINEER, color to be high-visibility orange, with one-inch-wide reflective tape, one-size-fits-all design.
d. Earplugs: Supply of foam, disposable earplugs. Promptly resupply when stock is depleted.

18. Two electric clocks.
19. One electric coffee maker, with ten-cup capacity or larger.
20. Bottled water with electric cooler dispenser for five-gallon bottles, with cup dispenser.
21. Telephone System:
    a. Telephone System Features:
        1) Provide one cordless telephone with hands-free speaker.
        2) Telephone shall have speed dialing with minimum of 20 programmable numbers, volume control, mute, redial, and hold button.
    b. Provide one digital telephone answering machine.
22. Multi-function Copier:
    a. One new or used (in good condition) machine with the following functions: photocopying, network printing, scanning to produce PDF and JPG files, and e-mail.
    b. Products and Manufacturers: Provide one of the following:
        1) Xerox WorkCentre 5845.
        2) Or equal.
    c. Minimum Memory: 2 GB.
    d. Ten-bin sort capacity, 8.5-inch by 11-inch, 8.5-inch by 14-inch, and 11-inch by 17-inch paper capacity, enlarging and reducing capabilities, stream-feed capability, bypass feeder, stapling capability, and double-sided copying capability. Copier shall produce not less than 40 copies per minute.
    e. Provide necessary cables and appurtenances to enable all functions specified in this Section, including scan-and-email and printing from field office computers. Furnish services of manufacturer's representative to set up and service copier.
23. Kitchen Area Appliances: Provide the following in the field office kitchen area:
    a. One new, frost-free, refrigerator-freezer, with capacity of not less than six cubic feet.
    b. One new microwave oven, not less than 1.2 cubic foot size.
    c. Kitchen area appliances will remain property of CONTRACTOR upon removal of field office."

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install field office and related facilities in accordance with Laws and Regulations.

B. Install materials and equipment, including prefabricated structures, in accordance with manufacturer's instructions, and to provide optimal performance and accuracy.

3.2 CLEANING, MAINTENANCE, AND SUPPLIES

A. Furnish the following maintenance services:
   1. Immediately repair malfunctioning, damaged, leaking, or defective field office structure, site improvements, systems, and equipment.
   2. Provide computer supplies and pay for maintenance on CONTRACTOR-furnished computer system and copier.
   3. Promptly provide snow and ice removal for ENGINEER's field office, including parking area, walkways, and stairs and landings.
   4. Provide continuous maintenance and janitorial service of field office and sanitary facilities. Clean field office not less than once per week Sweep or vacuum field office not less than daily, or more-frequently when site conditions are such that dirt or mud is frequently tracked into field office. Clean and wax (as appropriate) flooring every six months.
   5. Waste Disposal:
      a. Properly dispose of trash and waste as needed, not less than twice per week.
      b. Properly handle and dispose of recyclables. Do not dispose of recyclables as trash.
      c. Dispose of other waste, if any, as required, to avoid creation of nuisances and adverse environmental effects. Properly dispose of electronic waste, when necessary, at proper waste receiving facility.

B. Consumables: Provide the following consumables as needed:
   1. Toner and ink cartridges for printers and copier, as required.
   2. Paper supplies for printer and copier. Always maintain in field office not less than one ream of each size of paper for which printer and copier are capable.
   3. Dry markers in six colors and white board eraser set. Replace markers when exhausted or lost.
   4. Bottled water suitable for water dispenser and disposable cups.
   5. Coffee supplies, including coffee, filters, cups, sugar, creamer, and stir-sticks.
   6. Hand-soap, paper towels, toilet paper, cleansers, and janitorial implements, including broom.
   7. Batteries for smoke detector and other battery-powered items furnished by CONTRACTOR.
   8. Replace fire extinguishers upon expiration.
   9. Not less-often than monthly, inspect first-aid kit and inventory items consumed or used and remove items that are at or near their expiration date. Promptly replace and restock consumed and expired items.

3.3 REMOVAL

A. Remove field office and furnishings when directed by ENGINEER, prior to inspection for final completion. Deliver specified equipment to DEPARTMENT.

+ + END OF SECTION + +

SECTION 01 52 13

CONTRACTOR'S FIELD OFFICE AND SHEDS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide a temporary field office for CONTRACTOR's use with not less than the minimum facilities specified in the Contract Documents.
   2. Provide required temporary storage and work sheds, as applicable.
   3. Obtain and pay for required permits and utilities. Field offices and sheds shall comply with local ordinances unless otherwise modified in the Supplementary Conditions.

B. Coordination:
   1. Coordinate with DEPARTMENT and ENGINEER use of the Site including the location of field offices and sheds.

C. Location:
   1. Locate field offices and sheds in accordance with the Contract Documents and in accordance with the approved submittals.

D. Furnish in CONTRACTOR's field office one complete set of the Contract Documents for ready reference by interested persons. In addition to the reference set, comply with Section 01 78 39, Project Record Documents and related provisions of the General Conditions, as may be modified by the Supplementary Conditions.

PART 2 – PRODUCTS

2.1 FIELD OFFICE AND SHEDS – FURNISHINGS, AND EQUIPMENT

A. Contractor's Field Office and Furnishings:
   1. Construction: As required by CONTRACTOR and sufficient for Project meetings.
   2. Utilities and Services: Provide the following:
      a. Telephone service, capable of group teleconference
      b. Computer network and related facilities as required for CONTRACTOR's needs.
      c. Utilities and related facilities for lighting and maintaining temperature, in accordance with Section 01 52 11, ENGINEER's Field Office.
   3. Furnishings:

a. Conference Facilities: Provide conference area with conference table and chairs sufficient for 10 people. Conference facilities and furnishings shall be provided with suitable utilities, lighting, ventilation, and temperature controls prior to the first progress meeting, unless otherwise approved by ENGINEER.
b. Other furnishings required by CONTRACTOR.

4. Provide on field office's exterior an identification sign displaying CONTRACTOR's company name and emergency contact number. Maximum size of sign shall be four feet by four feet. Sign shall be suitable for outdoor use for the duration of the Project.
5. Furnish and maintain at CONTRACTOR's field office six (6) protective helmets ('hard hats") for use by visitors to the Site.

B. Contractor's Storage and Work Sheds:
1. Provide storage and work sheds sized, furnished, and equipped to accommodate personnel, materials, and equipment involved in the Work, including temporary utility services and facilities required for environmental controls sufficient for personnel, materials, and equipment.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Installation:
1. Install CONTRACTOR's temporary field offices, sheds, and related facilities in accordance with Laws and Regulations.
2. Install materials and equipment, including prefabricated structures, in accordance with manufacturer's instructions.

3.2 MAINTENANCE AND REMOVAL

A. Maintenance:
1. Clean and maintain field offices and sheds as required.
2. Provide consumables as required.

B. Removal:
1. Do not remove temporary field offices and sheds until after Substantial Completion of the entire Work, unless otherwise approved by ENGINEER.
2. Remove field offices and sheds and restore areas prior to final inspection.

+ + END OF SECTION + +

SECTION 01 55 13

ACCESS ROADS AND PARKING AREAS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide temporary construction roads, walks, parking areas, and appurtenances required during the Project for use by CONTRACTOR DEPARTMENT and emergency vehicles.
   2. Temporary roads and parking areas shall be designed and maintained by CONTRACTOR and shall be fully passable to vehicles in all weather conditions.

B. Use of Existing Access Roads:
   1. CONTRACTOR is allowed to use DEPARTMENT's existing roads starting on the Effective Date of the Contract and satisfying other Contract requirements relative to starting the Work.
   2. Prevent interference with traffic on existing roads and parking areas. Always keep access roads and entrances serving the Site clear and available to DEPARTMENT and their respective employees; emergency vehicles; and other contractors. Do not use access roads or Site entrances for parking or storage of materials or equipment.
   3. CONTRACTOR shall indemnify and hold harmless DEPARTMENT and ENGINEER from expenses and losses caused by CONTRACTOR's operations over existing roads, drives, and parking areas.
   4. Schedule deliveries to minimize use of driveways and Site entrances.

1.2 SITE ACCESS

A. Site Access:
   1. CONTRACTOR access to the Site shall be as shown on the drawings.

1.3 CONTRACTOR PARKING

A. CONTRACTOR employee vehicles shall park in area(s) as shown on the drawings.

B. Park construction vehicles and equipment in work areas off of permanent roads and parking areas, in areas of the Site designated for CONTRACTOR staging.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Materials for temporary roads and parking areas shall comply with the Contract Documents' requirements for permanent roads, drives, and parking areas.

B. Traffic controls shall comply with requirements of authorities having jurisdiction. When such authority is the DEPARTMENT or facility manager, and no requirements are indicated, comply with the standard specifications of the state department of transportation in the area of the Project.

PART 3 – EXECUTION

3.1 TEMPORARY ROADS AND PARKING AREAS

A. Temporary Roads and Parking in Areas Different from Permanent Pavement:
   1. Provide temporary roads and parking areas adequate to support and withstand traffic loads during the Project. Locate temporary roads and parking areas.
   2. Provide reasonably-level, graded, well-drained subgrade of satisfactory soil material, compacted to not less than 95 percent of maximum dry density in the upper six inches.
   3. Where required to support loads and provide separation between subgrade and subbase materials, provide geosynthetic separation fabric as required.
   4. Subbase:
      a. Provide crushed stone subbase material not less than twelve inches thick, roller-compacted to a level, smooth, dense surface.
      b. Subbase for temporary roads and areas traveled by construction vehicles shall be adequate for loads and traffic served.

B. Temporary Roads and Parking in Same Areas as Permanent Pavement:
   1. Provide temporary roads and parking areas adequate to support and withstand traffic and construction loads during the Project. Locate temporary roads and parking areas in same location as permanent roads and parking areas. Extend temporary roads and parking areas, within construction limits indicated, as required for construction operations.
   2. Coordinate elevations of temporary roads and parking areas with permanent roads and parking areas.
   3. Prepare subgrade, subbase, and base for temporary roads and parking areas in accordance with the Contract Documents requirements for permanent roads, drives, and parking areas.
   4. Where required by subgrade conditions and construction loads and traffic, provide geosynthetic separation fabric as required on compacted subgrade for subbase support and separation of subbase and subgrade materials.

5. Re-condition granular subbase of temporary roads and parking areas, including removing and properly disposing of granular material that has become intermixed with soil, re-grading, proof-rolling, compacting, and testing.

3.2 TRAFFIC CONTROLS

A. Traffic Controls:
   1. Provide temporary traffic controls at intersections of temporary roads with each other and with parking areas, including intersections with other temporary roads, intersections with public roads, and intersections with permanent access roads at the Site.
   2. Provide temporary warning signs on permanent roads and drives and provide temporary "STOP" AND "TRUCKS ENTERING" signs for traffic on temporary roads where required and at entrances to public roadways.
   3. Comply with requirements of authorities having jurisdiction. When such authority is the DEPARTMENT or facility manager, and no requirements are indicated, comply with the standard specifications of the state department of transportation in the area of the Project

3.3 MAINTENANCE OF ROADS

A. General:
   1. Maintain temporary roads and parking to continuously provide at the Site access for construction vehicles and trucks, DEPARTMENT and facility manager vehicles, deliveries for DEPARTMENT and facility manager, emergency vehicles, and parking areas for DEPARTMENT's and facility manager's personnel.
   2. Public roads shall be passable at all times unless a road closure is allowed in writing by authority having jurisdiction.
   3. When granular material of temporary roads and parking without hard surfacing become intermixed with soil or when temporary roads otherwise create a nuisance, remove intermixed granular-and-soil material and replace with clean granular material as required.
   4. Provide snow and ice removal for temporary roads and parking areas.

B. Cleaning and Dust Control:
   1. Cleaning: Clean paved surfaces over which construction vehicles travel.
   2. Clean the following surfaces:
      a. Roads within limits of the Project.
      b. Permanent roads at the Site between the Site entrance and the work areas, and between the Site entrance and construction parking and staging areas.
      c. Public roads that require sweeping and cleaning due to construction operations.

3. Dust Control:
    a. Control dust resulting from construction activities to prevent nuisances at the Site and in nearby areas.

C. Protection of Underground Facilities: Comply with the General Conditions, as may be modified by the Supplementary Conditions, and other requirements of the Contract Documents.

3.4 REMOVALS AND RESTORATION

A. Removals:
1. Remove temporary roads, drives, walks, and parking areas that are not intended for, or acceptable for, integration into permanent pavement. Return areas of temporary roads, drives, walks, and parking to pre-construction condition unless otherwise required by the Contract Documents.
2. Remove temporary gates, fencing, and traffic controls associated with temporary roads and parking areas.
3. Where areas of temporary roads and parking will be permanently landscaped, remove pavement, granular subbase, geosynthetic (where required by ENGINEER), soil, and other materials that do not comply with the Contract Documents regarding fill, subsoil, and landscaping.
4. Remove and properly dispose of materials contaminated with oil, bitumen, and other petrochemical compounds resulting from CONTRACTOR's operations, and other substances that might impair growth of plants and lawns.

B. Restoration:
1. Repair or replace paving, curbs, gutters, and sidewalks affected by temporary roads and parking, and restore to required conditions in accordance with authorities having jurisdiction.
2. Restore to pre-construction conditions existing roads, walks, and parking areas damaged by CONTRACTOR, subject to approval of the DEPARTMENT of affected roads, drives, walks, and parking areas.

+ + END OF SECTION + +

SECTION 01 57 33

SECURITY

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes general requirements for security at the Site, including accessing the Site, securing the Work, temporary fencing, and other requirements.
   2. CONTRACTOR shall safely guard all the Work, the Project, materials, equipment, and property from loss, theft, damage, and vandalism until Substantial Completion, unless otherwise agreed upon by the parties.
   3. CONTRACTOR's duty includes safely guarding DEPARTMENT's property in vicinity of the Work and Project, and other private property in the vicinity of the Project from injury and loss in connection with performance of the Project.
   4. Employ watchmen as required to provide required security and prevent unauthorized entry.
   5. Costs for security required under this Section shall be paid by CONTRACTOR.
   6. Make no claim against DEPARTMENT for damage resulting from trespass.
   7. Remedy damage to property of DEPARTMENT and others arising from failure to furnish adequate security.
   8. Provide temporary fencing in accordance with the Contract Documents.
   9. 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.
   10. If the CONTRACTOR furnishes an 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.

1.2 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings:

a. Temporary Fencing: Submit site plan drawings showing proposed locations and extent of temporary site security fencing and each breach therein.

2. Product Data:
   a. Temporary Fencing: Manufacturer's literature, specifications, and installation instructions for temporary site security fencing proposed.
3. Qualifications:
   a. Submit security firm experience and personnel resumes.
4. Routine Submittals
   a. Submit monthly security logs.
   b. Submit 3 copies of the all site entrance/exit log and the watchman logs as part of the project record documents.

B. Informational Submittals: Submit the following:
   1. Employee Information: Submit to DEPARTMENT , as applicable under the supplementary conditions;
      a. Format of employee background data.
      b. Background data for employees to whom identification badges will be furnished.
      c. Updated listing of personnel to whom identification badges have been issued. Submit updated listing within 24 hours of a change in the list or change in an employee's Site access status.

1.3 CONTRACTOR'S SITE ACCESS AND SECURITY PROCEDURES

A. Comply with Section 01 55 13, Access Roads and Parking Areas.

B. Comply with DEPARTMENT's security procedures and access restrictions at the Site throughout the Project. Comply with the following:
   1. Personnel Identification:
      a. All CONTRACTOR personnel, including Subcontractors, Suppliers, and others associated with the Project shall wear, at a visible location, at all times at the Site a durable, waterproof badge bearing CONTRACTOR's name, employer (if other than CONTRACTOR), employee's name and, as applicable, employee number.
   2. General Provisions Regarding Personnel Identification, as applicable under the Supplementary Conditions:
      a. Prerequisites to Issuance of Personnel Identification Badges:
         1) Do not issue personnel identification badge until the person receiving the badge is documented by CONTRACTOR as:
            a) Being eligible to perform work in the jurisdiction where the Project is located.
            b) Has received all required safety instructions, training, and equipment.

c) Is known to CONTRACTOR as being qualified to perform the Work to which the person will be assigned.

b. Listing of Personnel to Whom Badges are Issued:
1) Maintain and continuously update a listing or log of all personnel to whom personnel identification badges have been issued.
2) Listing or log shall indicate each person's full name, home address, personal telephone number, employer name, and employer address and telephone number.
3) Submit copy of listing or to DEPARTMENT in accordance with Article 1.2 of this Section.

3. Parking:
a. Do not park outside of designated CONTRACTOR parking area.
b. Prepare and maintain parking area as required.

PART 2 – PRODUCTS

2.1 TEMPORARY FENCING

A. When security fencing or barriers are breached or temporarily removed for the Project, provide and maintain temporary security fencing equal to existing, unless otherwise specified, in manner satisfactory to ENGINEER and DEPARTMENT.

PART 3 – EXECUTION

3.1 TEMPORARY FENCING

A. Installation:
1. Provide temporary fencing for site security so that integrity of site security is maintained throughout the Project.
2. Install temporary fencing used for site security in accordance with the Contract Documents, Section 01 51 05, Temporary Utilities and Controls and fence manufacturer's instructions.

B. Maintenance:
1. Maintain temporary fencing throughout the Project.
2. Repair damage to temporary fencing and replace fencing when required to preserve Site security.

C. Removal:
1. Remove temporary fencing when permanent site security fencing is in place and fully functional, or when otherwise directed or ENGINEER.

3.2 LOGS

A. Site Entrance/Exit Log:
   1. Log shall contain signed entry and exit record for project personnel and visitors.
   2. Log shall record time of entry and exit and firm of the individual.

B. Watchman Log/Activities:
   1. 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.
   2. Conduct three security checks during non-working hours.

C. Site Access/Control:
   1. The CONTRACTOR shall be responsible for the control of all persons and vehicles entering and leaving the project site, and shall:
      a. 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.
      b. Maintain a log of project-related vehicles and equipment entering and leaving the work areas.
      c. Persons not associated with the project will require the ENGINEER's acceptance to be admitted on site.
      d. Maintain a log of visitors, separate from the project personnel log.
   2. A log of all security incidents shall be maintained and furnished to the ENGINEER upon request.
   3. 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.
   4. 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.
   5. The CONTRACTOR shall maintain a current list of authorized persons and shall submit copies of the updated list to the ENGINEER.

+ + END OF SECTION + +

SECTION 01 58 00

PROJECT IDENTIFICATION AND SIGNS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall furnish, install, and maintain temporary signage for Project identification and construction site information.
   2. Temporary signs required are indicated in Part 2 of this Section.
   3. Do not display any other temporary signs, other than those specified, without the prior approved of DEPARTMENT.

1.2 QUALITY ASSURANCE

A. Qualifications:
   1. Sign Painter:
      a. Shall be a professional in the type of Work required, regularly engaged in work similar to that required.

1.3 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings:
      a. Layout of each sign (sign proof), indicating layout, text, font, character size, graphics (if any), type and grade of materials, including sign materials, supports, and bracing.
   2. Product Data:
      a. Specifications and product data for finishes proposed for use, when requested by ENGINEER.
   3. Samples: Submit color Samples when requested by ENGINEER.

PART 2 – PRODUCTS

2.1 MATERIALS AND CONSTRUCTION

A. Performance Criteria:
   1. Temporary signs, including supports and bracing, shall withstand sustained winds of 75 miles per hour.

B. Temporary Signage Required: Provide the following temporary signs:
   1. Project Sign: as further defined in the project sign guidance attachment.

PART 3 – EXECUTION

3.1 INSTALLATION, MAINTENANCE, AND REMOVAL

A. Installation:
1. Location of signs shall be as shown or indicated on the Contract Documents, or as directed by ENGINEER. Signs shall be plainly visible to vehicular traffic.
2. Install signs in a neat, professional, workmanlike manner to withstand the performance criteria indicated in this Section.
3. Install signs within two weeks of Mobilization to the site.
4. Fasten sign, in a level position, securely to posts or fenceline. The center of the sign should be located approximately 6 to 7 feet from ground level.

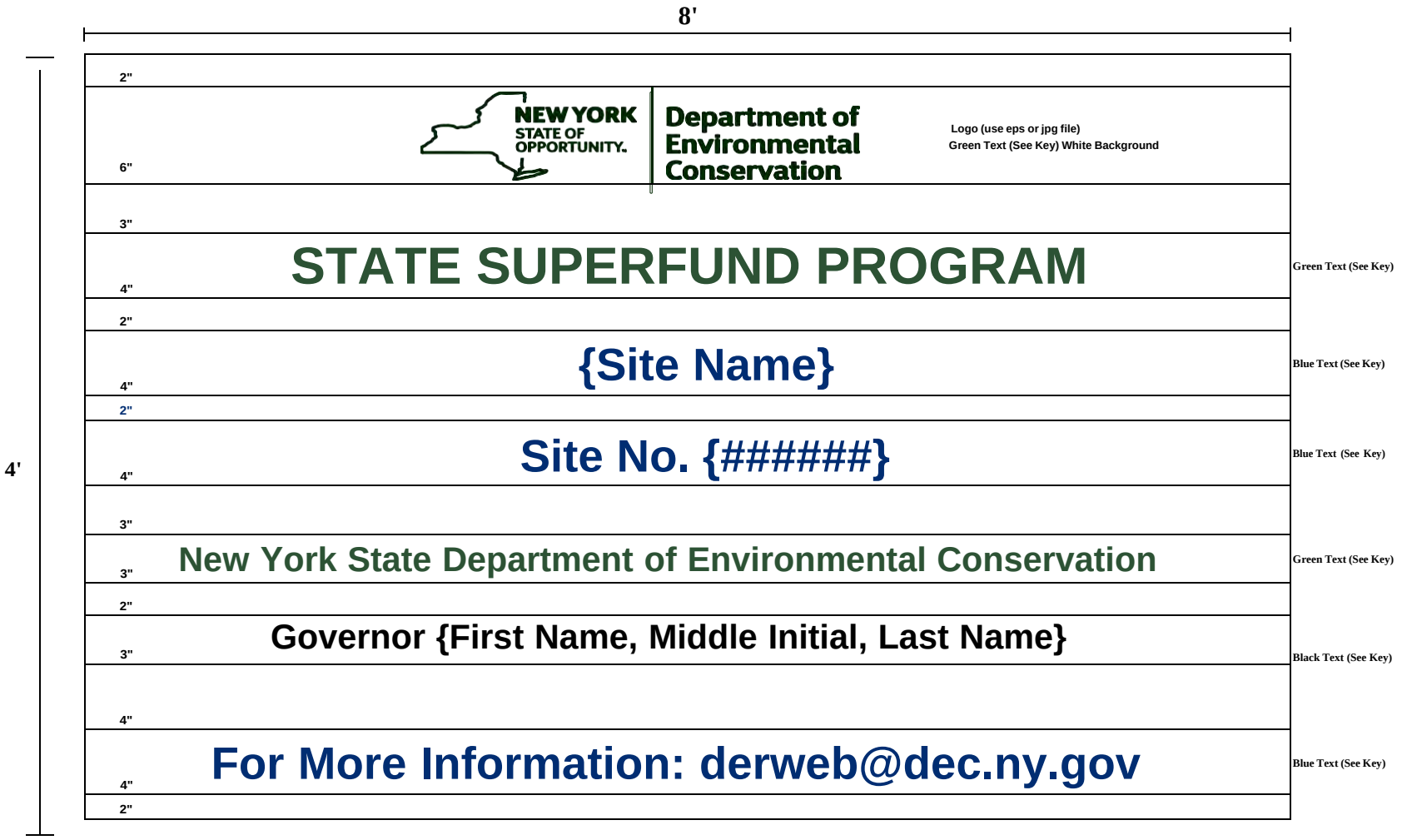
B. Maintenance:
1. Maintain temporary signage so that signs are clean, legible, and upright.
2. Cut grass, weeds, and other plants so that temporary signs are not covered or obscured.
3. Repair and repaint damaged temporary signs.
4. Relocate signs as required by progress of the Project.

C. Remove temporary signage prior to final inspection of the Work, or when directed by ENGINEER.

Sign Requirements

Sign Size:	Horizontal format – 96” wide by 48” high
Construction Materials:	Aluminum or wood blank sign boards with vinyl sheeting.
Content:	**“**New York State DEC logo”, “STATE SUPERFUND PROGRAM”, “{Site Name}”, “{Site No.}”, “New York State Department of Environmental Conservation”, “Governor {First Name, Middle Initial, Last Name}”, “For More Information: derweb@dec.ny.gov”.
Text and Color Scheme:	New York State DEC Logo (PM to provide .eps file or equivalent) Green text (PANTONE 350C or CMYK 100/43/83/42) STATE SUPERFUND PROGRAM (ALL CAPS) Green text (PANTONE 350C or CMYK 100/43/83/42) {Site Name} Blue text (PANTONE 288C or CMYK 100/87/27/19) Site No. {Site Number} Blue text (PANTONE 288C or CMYK 100/87/27/19) New York State Department of Environmental Conservation Green text (PANTONE 350C or CMYK 100/43/83/42) Governor {First Name, Middle Initial, Last Name} Black text (PANTONE Black 6 C or CMYK 100/61/32/96) For More Information: derweb@dec.ny.gov Blue text (PANTONE 288C or CMYK 100/87/27/19)
Type Specifications:	All Font is: Ariel Format is: Center each line of copy with initial caps and small letters
Production Notes:	96” wide x 48” high aluminum blanks will be covered with vinyl sheeting to achieve background color. Copy and logo will be silk screened on this surface.
Sign Format:	See following page.

Project Sign Format



Color Key for Text

Green Text = Pantone 350C or CMYK 80/43/83/42

Blue Text = Pantone 288C or CMYK 100/87/27/19

Black Text = Pantone Black 6 C or CMYK 100/61/32/96

+ + END OF SECTION + +

SECTION 01 62 00

PRODUCT OPTIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes:
      a. CONTRACTOR's options for selecting materials and equipment.
      b. Requirements for consideration of "or-equal" materials and equipment as further defined in the General Conditions.

1.2 PRODUCT OPTIONS

A. For materials and equipment specified only by reference standard or description, without reference to Supplier, furnish materials and equipment complying with such standard, by a Supplier or from a source that complies with the Contract Documents.

B. For materials and equipment specified by naming one or more items or Suppliers, furnish the named materials and equipment that comply with the Contract Documents, unless an "or-equal" or substitute item is approved by ENGINEER.

C. For materials and equipment specified by naming one or more items or Suppliers and the term, "or-equal", when CONTRACTOR proposes a material or equipment item or Supplier as an "or-equal", submit to ENGINEER a request for approval of an "or-equal" item or Supplier.

1.3 "OR-EQUAL" ITEMS

A. Procedure:
   1. For proposed materials and equipment not named in the Contract Documents and considered as an "or-equal" in accordance with the General Conditions, CONTRACTOR shall request in writing ENGINEER's approval of the "or-equal".
   2. Request for approval of an "or-equal" item shall accompany the Shop Drawing or product data submittal for the proposed item

B. Requests for approval of "or-equals" shall include:
   1. CONTRACTOR's written request that the proposed item be considered as an "or-equal" in accordance with the General Conditions, accompanied by CONTRACTOR's certifications required in the General Conditions.
   2. Documentation adequate to demonstrate to ENGINEER that proposed item does not require extensive revisions to the Contract Documents, that proposed

item is consistent with the Contract Documents, and that proposed item will produce results and performance required in the Contract Documents, and that proposed item is compatible with other portions of the Work.

3. Detailed comparison of significant qualities of proposed item with the materials and equipment and manufacturers named in the Contract Documents. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements shown or indicated.
4. Evidence that proposed item's manufacturer will furnish warranty equal to or better than that specified, if any.
5. List of similar installations for completed projects with project names and addresses, and names and address of design professionals and owners, when requested.
6. Samples, when requested by ENGINEER.
7. Other information requested by ENGINEER.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 65 00

PRODUCT DELIVERY REQUIREMENTS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes general requirements for preparing for shipping, delivering, and handling materials and equipment to be incorporated into the Work.
   2. CONTRACTOR shall make all arrangements for transporting, delivering, and handling of materials and equipment required for prosecution and completion of the Work.
   3. When required, move stored materials and equipment without changes to the Contract Price or Contract Times.

1.2 SUBMITTALS

A. Refer to individual Specifications Sections for submittal requirements relative to delivering and handling materials and equipment.

1.3 PREPARING FOR SHIPMENT

A. When practical, factory-assemble materials and equipment. Mark or tag separate parts and assemblies to facilitate field-assembly. Cover machined and unpainted parts that may be damaged by the elements or climate with strippable, protective coating.

B. Package materials and equipment to facilitate handling, and protect materials and equipment from damage during shipping, handling, and storage. Mark or tag outside of each package and crate to indicate the associated purchase order number, bill of lading number, contents by name, DEPARTMENT's contract designation, CONTRACTOR name, equipment number, and approximate weight. Include complete packing lists and bills of materials with each shipment.

C. Protect materials and equipment from exposure to the elements and damage by climate and keep thoroughly dry and dust-free at all times. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Lubricate bearings and other items requiring lubrication in accordance with manufacturer's instructions.

D. Do not ship materials and equipment until:

1. Related Shop Drawings, Samples, and other submittals required by the Contract Documents have been approved or accepted (as applicable) by ENGINEER, including, but not necessarily limited to, all Action Submittals associated with the materials and equipment being delivered.
2. Manufacturer's instructions for handling, storing, and installing the associated materials and equipment have been submitted to and accepted by ENGINEER in accordance with the Specifications.
3. Results of source quality control testing (factory testing), when required by the Contract Documents for the associated materials or equipment, have been submitted to and accepted by ENGINEER.
4. Facilities required for handling materials and equipment in accordance with the Contract Documents and manufacturer's instructions are in place and available.
5. Required storage facilities have been provided.

1.4 DELIVERY

A. Scheduling and Timing of Deliveries:
1. Arrange deliveries of materials and equipment in accordance with the Progress Schedule accepted by ENGINEER and in ample time to facilitate inspection and observation prior to installation.
2. Schedule deliveries to minimize space required for and duration of storage of materials and equipment at the Site or other delivery location, as applicable.
3. Coordinate deliveries to avoid conflicting with the Work and conditions at Site, and to accommodate the following:
    a. Work of other contractors and DEPARTMENT.
    b. Storage space limitations.
    c. Availability of equipment and personnel for handling materials and equipment.
    d. DEPARTMENT's use of premises.
4. Deliver materials and equipment to the Site during regular working hours.
5. Deliver materials and equipment to avoid delaying the Work and the Project, including work of other contractors, as applicable. Deliver anchor system materials, including anchor bolts to be embedded in concrete or masonry, in ample time to avoid delaying the Work.

B. Deliveries:
1. Shipments shall be delivered with CONTRACTOR's name, Subcontractor's name (if applicable), Site name, Project name, and contract designation clearly marked.
2. Site may be listed as the "ship to" or "delivery" address; but DEPARTMENT shall not be listed as recipient of shipment unless otherwise directed in writing by ENGINEER.
3. Provide CONTRACTOR's telephone number to shipper; do not provide DEPARTMENT's telephone number.

4. Arrange for deliveries while CONTRACTOR's personnel are at the Site. CONTRACTOR shall receive and coordinate shipments upon delivery. Shipments delivered to the Site when CONTRACTOR is not present will be refused by DEPARTMENT, and CONTRACTOR shall be responsible for the associated delays and additional costs, if incurred.
5. Comply with Section 01 35 43.13, Environmental Procedures for Hazardous Materials.

C. Containers and Marking:
1. Have materials and equipment delivered in manufacturer's original, unopened, labeled containers.
2. Clearly mark partial deliveries of component parts of materials and equipment to identify materials and equipment, to allow easy accumulation of parts, and to facilitate assembly.

D. Inspection of Deliveries:
1. Immediately upon delivery, inspect shipment to verify that:
   a. Materials and equipment comply with the Contract Documents and approved or accepted (as applicable) submittals.
   b. Quantities are correct.
   c. Materials and equipment are undamaged and of the required quality.
   d. Containers and packages are intact and labels are legible.
   e. Materials and equipment are properly protected.
2. Promptly remove damaged materials and equipment from the Site and expedite delivery of new, undamaged materials and equipment, and remedy incomplete or lost materials and equipment. Furnish materials and equipment in accordance with the Contract Documents, to avoid delaying progress of the Work.
3. Advise ENGINEER in writing when damaged, incomplete, or defective materials and equipment are delivered, and advise ENGINEER of the associated impact on the Progress Schedule.

1.5 HANDLING OF MATERIALS AND EQUIPMENT

A. Provide equipment and personnel necessary to handle materials and equipment, including those furnished by DEPARTMENT, by methods that prevent soiling or damaging materials and equipment and packaging.

B. Provide additional protection during handling as necessary to prevent scraping, marring, and otherwise damaging materials and equipment and surrounding surfaces.

C. Handle materials and equipment by methods that prevent bending and overstressing.

D. Lift heavy components only at designated lifting points.

E. Handle materials and equipment in safe manner and as recommended by the manufacturer to prevent damage. Do not drop, roll, or skid materials and equipment off delivery vehicles or at other times during handling. Hand-carry or use suitable handling equipment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 66 00

PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes general requirements for storing and protecting materials and equipment.
   2. CONTRACTOR shall provide all labor, materials, tools, equipment, and incidentals to store and handle materials and equipment to be incorporated into the Work, and other materials and equipment at the Site.

1.2 STORAGE

A. Store and protect materials and equipment in accordance with manufacturer's recommendations and the Contract Documents.

B. General:
   1. CONTRACTOR shall make all arrangements and provisions necessary for, and pay all costs for, storing materials and equipment.
   2. Excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed to avoid injuring the Work and existing facilities and property, and so that free access is maintained at all times to all parts of the Work and to public utility installations in vicinity of the Work.
   3. Store materials and equipment neatly and compactly in locations that cause minimum inconvenience to DEPARTMENT, facility manager, other contractors, public travel, and tenants, and occupants of adjoining property.
   4. Arrange storage in manner to allow easy access for inspection by ENGINEER.

C. Storage Location:
   1. Areas available at the Site for storing materials and equipment are shown or indicated in the Contract Documents, or as acceptable to ENGINEER.
   2. Restrictions:
      a Do not store materials or equipment in structures being constructed unless approved by ENGINEER in writing.

b. Do not use lawns or other private property for storage without written permission of the DEPARTMENT or other person in possession or control of such premises.

D. Protection of Stored Materials:
1. Store materials and equipment to become DEPARTMENT's property to ensure preservation of quality and fitness of the Work, including proper protection against damage by freezing, moisture, and with outdoor ambient air high temperatures as high as 120 degrees F; temperature and humidity inside crates, containers, storage sheds, and packaging may be significantly higher than the outdoor ambient air temperature.
2. Store in indoor, climate-controlled storage areas all materials and equipment subject to damage by moisture, humidity, heat, cold, and other elements, unless otherwise acceptable to DEPARTMENT.
3. When placing orders to Suppliers for equipment and controls containing computer chips, electronics, and solid-state devices, CONTRACTOR shall obtain, coordinate, and comply with specific temperature and humidity limitations on materials and equipment, because temperature inside cabinets and components stored in warm temperatures can approach 200 degrees F.
4. CONTRACTOR shall be fully responsible for loss or damage (including theft) to stored materials and equipment.
5. Do not open manufacturer's containers until time of installation, unless recommended by the manufacturer or otherwise specified in the Contract Documents.
6. Comply with requirements of Article 1.3 of this Section.

1.3 PROTECTION – GENERAL

A. Equipment to be incorporated into the Work shall be boxed, crated, or otherwise completely enclosed and protected during shipping, handling, and storage, in accordance with Section 01 65 00, Product Delivery Requirements.

B. Store all materials and equipment off the ground (or floor) on raised supports such as skids or pallets.

C. Protect painted surfaces against impact, abrasion, discoloration, and other damage. Painted equipment surfaces that are damaged or marred shall be repainted in their entirety in accordance with equipment manufacturer and paint manufacturer requirements, to the satisfaction of ENGINEER.

D. Protect electrical equipment, controls, and instrumentation against moisture, water damage, humidity, heat, cold, and dust. Space heaters provided in equipment shall be connected and operating at all times until equipment is placed in operation and permanently connected.

1.4 UNCOVERED STORAGE

A. The following types of materials may be stored outdoors without cover on supports so there is no contact with the ground:
   1. Reinforcing steel.
   2. Precast concrete materials.
   3. Structural steel.
   4. Metal stairs.
   5. Handrails and railings.
   6 Grating.
   7. Checker plate.
   8. Metal access hatches.
   9. Castings.
   10. Fiberglass items.
   11. Rigid electrical conduit, except PVC-coated conduit.
   12. Piping, except PVC or chlorinated PVC (CPVC) pipe.

1.5 COVERED STORAGE

A. The following materials and equipment may be stored outdoors on supports and completely covered with covering impervious to water:
   1. Grout and mortar materials.
   2. Masonry units.
   3. Rough lumber.
   4. Soil materials and granular materials such as aggregate.
   5. PVC and CPVC pipe.
   6. PVC-coated electrical conduit.
   7. Filter media.

B. Tie down covers with rope and install covering properly sloped to prevent accumulation of water.

C. Store loose granular materials, with covering impervious to water, in well-drained area or on solid surfaces to prevent mixing with foreign matter.

1.6 FULLY PROTECTED STORAGE

A. Store all material and equipment not indicated in Articles 1.4 and 1.5 of this Section on supports in buildings or trailers that have concrete or wooden flooring, roof, and fully-closed walls on all sides. Covering with visquine plastic sheeting or similar material in space without floor, roof, and walls is unacceptable. Comply with the following:
   1. Provide heated storage for materials and equipment that could be damaged by low temperatures or freezing.

2. Provide air-conditioned storage for materials and equipment that could be damaged by high temperatures or humidity.
3. Protect mechanical and electrical equipment from being contaminated by dust, dirt, and moisture.
4. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

1.7 HAZARDOUS MATERIALS AND EQUIPMENT

A. Prevent contamination of personnel, storage areas, and the Site. Comply with Laws and Regulations, manufacturer's instructions, Section 01 35 29, CONTRACTOR's Health and Safety Plan and Section 01 35 43.13, Environmental Procedures for Hazardous Materials, and other provisions of the Contract Documents.

1.8 MAINTENANCE OF STORAGE

A. On a scheduled basis, periodically inspect stored materials and equipment to ensure that:
1. Condition and status of storage facilities is adequate to provide required storage conditions.
2. Required environmental conditions are maintained on continuing basis.
3. Materials and equipment exposed to elements are not adversely affected.

1.9 RECORDS

A. Keep up-to-date account of materials and equipment in storage to facilitate preparation of Applications for Payment, if the Contract Documents provide for payment for materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 71 23

FIELD ENGINEERING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes field engineering, surveying, and layouts by CONTRACTOR, and associated requirements. This Section supplements the Agreement and General Conditions' provisions on reference points and other matters.
   2. CONTRACTOR shall provide field engineering services, surveying and layout services, and professional services of the types indicated for the Project, including:
      a. Furnishing civil, structural, and other delegated professional engineering services specified or required to execute CONTRACTOR's construction methods.
      b. Developing and making all detail surveys and measurements required for construction; including slope stakes, batter boards, and all other working lines, elevations, and cut sheets.
      c. Providing materials required for benchmarks, control points, batter boards, grade stakes, structure and pipeline elevation stakes, and other items.
      d. Keeping a total station; survey grade global positioning system (GPS); leveling instrument; and related surveying equipment at the Site at all times and having a skilled instrument person available when necessary for laying out the Work.
      e. Being solely responsible for all locations, dimensions and levels. No data other than Change Order, Work Change Directive, or Field Order shall justify departure from dimensions and levels required by the Contract Documents.
      f. Rectifying all Work improperly installed because of not maintaining, not protecting, or removing without authorization established reference points, stakes, marks, and monuments.
      g. Providing such facilities and assistance necessary for ENGINEER and/or DEPARTMENT to check lines and grade points placed by CONTRACTOR. Do not perform excavation or embankment work until all cross-sectioning necessary for determining payment quantities for Unit Price Work have been completed and accepted by ENGINEER.
      h. All survey work shall be certified by a New York State Professional Land Surveyor (PLS).

i. PLS shall also work with contractor to develop a Quality Assurance program and necessary certification of GPS guided equipment to ensure accuracy. The use of GPS data from equipment will not replace the required record surveys.

B. Coordination:
1. Review requirements of this and other Sections and coordinate installation of items to be installed with or before field engineering, surveying, and layout Work.

1.2 SUBMITTALS

A. Informational Submittals: Submit the following:
1. Certificates:
a. When requested by ENGINEER, submit certificate signed by professional engineer or professional surveyor, as applicable, certifying that elevations and locations of the Work comply with the Contract Documents. Explain each deviation, if any.
2. Field Engineering:
a. Submit daily reports as indicated in this Section.
b. When requested by ENGINEER, submit documentation verifying accuracy of field engineering.
3. Surveying:
a. Complete plan for performing survey work, submitted not less than 10 days prior to beginning survey Work.
b. Example of survey data to be maintained by CONTRACTOR's surveyor. Example shall have sufficient information and detail, including example instrument output, calculations and notes.
c. Submit raw instrument data or field data within two days after completing survey Work.
d. Submit certified survey in accordance with this Section.
4. Qualifications Statements:
a. Field Engineer: Name, employer, and professional address. When requested by ENGINEER, submit qualifications, including resume'.
b. Surveyor: Name, employer, and professional address of firm, and resumes of each professional land surveyor and crew chief that will be engaged in survey Work. Submit not less than 10 days prior to beginning survey Work. During the Project, submit resume for each new registered, licensed land surveyor and crew chief employed by or retained by CONTRACTOR not less than 10 days prior to starting on the survey Work.

1.3 CONTRACTOR'S ENGINEERS

A. Qualifications of Field Engineer:
   1. Employ and retain at the Site a field engineer with experience and capability of performing all field engineering tasks required of CONTRACTOR, as indicated in this Article and elsewhere in the Contract Documents.
   2. CONTRACTOR's field engineer shall possess experience performing duties similar in scope and extent to those required of CONTRACTOR's field engineer on this Project. Qualifications of the CONTRACTOR's field engineer shall be subject to review and approval by the DEPARTMENT.

B. Responsibilities of Contractor's Field Engineer:
   1. Daily Reports:
      a. Prepare and maintaining daily reports of activity on the Contract. Submit reports to ENGINEER including the following information:
         1) Number of employees at the Site.
         2) Number employees at the Site for each Subcontractor.
         3) Breakdown of employees by trades.
         4) Major equipment and materials installed as part of the Work.
         5) Major construction equipment utilized.
         6) Location of areas in which construction was performed.
         7) Materials and equipment delivered to the Site or suitable, offsite storage location.
         8) Work performed, including field quality control and testing.
         9) Weather conditions.
         10) Safety concerns, events, and precautions taken.
         11) Delays encountered, extent of delay incurred, reasons for the delay, and measures that will be taken to rectify delays encountered.
         12) Acknowledgement of specific instructions received from ENGINEER or DEPARTMENT.
      b. Daily reports shall be signed and dated by responsible member of CONTRACTOR's staff, such as CONTRACTOR's project manager, field engineer, or superintendent, or foreman designated by CONTRACTOR as having authority to sign daily reports.
      c. Submit CONTRACTOR's daily reports in accordance with Section 01 31 26, Electronic Communication Protocols, by 9:00 a.m. the next working day after the day covered in the associated report.
   2. Continually inspect the Work to ensure that the quality and quantities required by the Contract Documents are provided.
   3. Cooperate as required with ENGINEER in observing the Work and performing field inspections.
   4. Check and coordinate the Work for conflicts and interferences, and immediately advise ENGINEER of all discrepancies of which CONTRACTOR is aware.

5. Maintain field office files and drawings, record documents, and coordinate field engineering services with Subcontractors and Suppliers as appropriate, and other prime contractors (if any).
6. Prepare layout and coordination drawings for construction operations.
7. Review and coordinate the Work with Shop Drawings and CONTRACTOR's other submittals approved or accepted, as applicable, by ENGINEER.

C. Professionals Retained by Contractor (whether or not stationed at the Site):
1. Delegated Professional Design Services:
a. Where the Contract Documents require CONTRACTOR to furnish professional engineering or architecture services as delegated professional design, the provisions of the General Conditions regarding delegated professional design services, and the Contract Documents' requirements applicable to the specific delegated professional design, shall apply.
2. Professional Services that are Not Delegated as Professional Design of the Completed Work:
a. Where the Contract Documents require that the CONTRACTOR retain a design professional for to carry out the CONTRACTOR's responsibilities for construction means, methods, techniques, sequences and procedures (including temporary construction that will not remain as part of the completed Work), such services shall be performed by a registered professional of the discipline required for specific service on the Project, with valid license in the same jurisdiction as the Site.
b. DEPARTMENT and ENGINEER shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed by such design professionals.

1.4 CONTRACTOR'S SURVEYOR

A. Qualifications:
1. Employ or retain the services, as needed, at the Site a surveyor with experience and capability of performing surveying and layout tasks required in the Contract Documents and as required for the Work. Surveyor qualifications will be subject to review and acceptance by the ENGINEER.
2. Surveyor shall be a professional land surveyor registered and licensed in the State of New York.

B. Responsibilities of Contractor's Surveyor:
1. Providing required surveying equipment, including transit, theodolite, or total station; level; stakes; and surveying accessories.
2. Establishing required lines and grades for constructing all facilities, structures, pipelines, and site improvements, including outdoor electrical equipment and feeders.

3. Preparing and maintaining professional-quality, accurate, well-organized, legible notes of all measurements and calculations made while surveying and laying out the Work.
4. Prior to backfilling operations, survey, locate, and record on a copy of the Contract Documents accurate representation of buried Work and Underground Facilities provided and encountered.
5. Locate on a site plan the actual location of above-ground Work to be indicated on record documents.
6. Complying with requirements of the Contract Documents relative to surveying and related Work, including requirements of this Section's Articles 1.5 and 3.1.
7. Prepare all surveys in AutoCAD format. Coordinate version with ENGINEER.

1.5 RECORDS

A. Records – General:
   1. Maintain at the Site a complete and accurate log of control and survey Work as such Work progresses.

B. Field Books and Records:
   1. Survey data and records shall be in accordance with recognized professional surveying standards, Laws and Regulations, and prevailing standards of practice in the locality where the Site is located.

C. Initial Survey:
   1. Provide topographic survey of site property and any contractor use areas, property boundary survey and utilities prior to site disturbance. Elevations will be provided for all control points.
   2. Compute the coordinates of each surveyed point on the New York State Plane Coordinate System using the 1983 North American Datum. The elevations shall be on the National Geodetic Vertical Datum.

D. Site Control:
   1. Provide one permanent site control monument with elevations referenced to a National Geodetic Vertical Datum (NGVD) benchmark and coordinates referenced to the New York State Plane (NAD 83) Datum. The monument locations and elevations shall meet the Federal Geodetic Control Committee Standard for second order (horizontal and vertical). Final locations will be reviewed by the ENGINEER for acceptability.

E. Payment Surveys:
   1. Surveys required for the verification of payment quantities will be signed and sealed by the professional surveyor.
   2. Compute the coordinates of each surveyed point on the New York State Plane Coordinate System using the 1983 North American Datum. The elevations shall be on the National Geodetic Vertical Datum.

F. Certified Survey of Surface Structures:
   1. Upon completion of foundation walls and major site improvements, prepare a certified survey, signed and sealed by professional surveyor, showing or indicating dimensions, locations, angles and elevations of construction and locations and elevations of Underground Facilities installed and encountered during the Work.
   2. Compute the coordinates of each surveyed point on the New York State Plane Coordinate System using the 1983 North American Datum. The elevations shall be on the National Geodetic Vertical Datum.
   3. During construction of any concrete slab, the subbase will be surveyed before installation of the concrete, and the concrete surface will be surveyed.
   4. Well locations and their corresponding elevations of the top of casing shall be surveyed in.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SURVEYING

A. Reference Points:
   1. Refer the General Conditions, as may be modified by the Supplementary Conditions, for requirements regarding reference points.
   2. DEPARTMENT's established reference points that are damaged or destroyed by CONTRACTOR will be re-established by DEPARTMENT at CONTRACTOR's expense. DEPARTMENT may deduct from payments owed CONTRACTOR such amounts as set-offs in accordance with the Contract Documents.
   3. From DEPARTMENT-established reference points, establish lines, grades, and elevations necessary to control the Work. Obtain measurements required for executing the Work to tolerances specified in the Contract Documents.
   4. Establish, place, and replace as required, such additional stakes, markers, and other reference points necessary for control, intermediate checks, and guidance of construction operations.

B. Surveys to Determine Quantities for Payment:
   1. For each application for progress payment, perform such surveys and computations necessary to determine quantities of Work performed or placed. Perform surveys necessary for ENGINEER to determine final quantities of Work in place.
   2. Notify ENGINEER not less than 24 hours before performing survey services for determining quantities to be included in Application for Payment. Unless

waived in writing by ENGINEER, perform quantity surveys in presence of ENGINEER or Resident Project Representative (if any).

C. Construction Surveying: Comply with the following:
   1. Alignment Staking: Provide alignment stakes at 50-foot intervals on tangent, and at 25-foot intervals on curves.
   2. Slope Staking: Provide slope staking at 50-foot intervals on tangent, and at 25-foot intervals on curves. Re-stake at every ten-foot difference in elevation.
   3. Structure: Stake-out structures, including elevations, and check prior to and during construction.
   4. Pipelines: Stake-out pipelines including elevations and check prior to and during construction.
   5. Roads, Drives, and Paved Areas: Stake-out roadway, driveway, and paved area elevations at 50-foot intervals on tangent, and at 25-foot intervals on curves.
   6. Cross-sections: Provide original, intermediate, and final staking as required, for site work other locations as necessary for quantity surveys.
   7. Easement Staking: Provide easement staking at 50-foot intervals on tangent, and at 25-foot intervals on curves. Also provide wooden laths with flagging at maximum intervals of 100 feet.
   8. Record Staking: Provide permanent stake at each blind flange and each utility cap provided for future connections. Stakes for record staking shall be material acceptable to ENGINEER.

D. Accuracy:
   1. Establish CONTRACTOR's temporary survey references points for CONTRACTOR’s use to not greater than second-order accuracy (e.g., 1:10000). Construction staking used as a guide for the Work shall be set at not greater than third-order accuracy (e.g., 1:5000). Basis on which such orders are established shall provide the absolute margin for error specified below.
   2. Horizontal accuracy of easement staking shall be plus or minus 0.1 feet. Accuracy of other staking shall be plus or minus 0.04 feet horizontally and plus or minus 0.02 feet vertically.
   3. Survey calculations shall include an error analysis sufficient to demonstrate required accuracy.

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SECTION 01 76 50

NUISANCE CONTROLS, MANAGEMENT AND CORRECTIVE MEASURES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for managing, controlling nuisance issues and associated corrective measures during construction. Consideration of equipment noise, vibration levels shall be part of each stage of project planning.
   2. The work zones for this project are on, adjacent to or in close proximity to sensitive receptors such as schools and residential properties. The Department has zero tolerance for nuisance emissions, including fugitive dust, noise, vibration, turbidity, disruptive lighting or other situations which may give rise to complaints from the community.
   3. The requirements presented in this specification supplement other nuisance monitoring requirements in the contract, e.g. air monitoring. This specification does not relieve the Contractor from other contract requirements and where there is a conflict in monitoring requirements, the more stringent action level shall be applied.
   4. The Contractor is responsible for developing means and methods as well as accounting for these requirements or proposing alternate best management practices which meet the intent of these provisions (i.e., minimizing nuisance conditions which may adversely impact the public or the environment through appropriate engineering controls).

B. Performance Requirements:
   1. The intent of this Section is to document and formalize the Contractor's plan for managing, controlling nuisance issues and associated corrective measures during construction per the Contract Documents.
   2. The Contractor shall provide advance notification to the community of any work activities that will generate nuisances in accordance with this specification. The minimum notification period is 48 hours before noisy work is scheduled. Longer notification periods of a week or more may apply to work likely to exceed the Local regulation noise or other levels or at the start of a project.
   3. The point of compliance for fugitive dust, turbidity, vibration, noise, lighting or other nuisance management issues will be at the limit of the work zone. At the point of compliance, no visible dust (or visible contrast in water clarity) is allowed. Complaints from the community will result in work stoppage until corrective measures are implemented to the satisfaction of the Engineer.
   4. The Contractor shall provide a competent and reliable community relations liaison, who shall not be replaced without written approval of Department. The community relations liaison will be the Contractor's representative and shall interface with the Engineer's communications representative and the Department's Public Participation Specialist. The intent is to increase public awareness and understanding of remedial activities taking place in their community, as well as understand environmental data developed during the project.

1.2 REFERENCES

A. 42 US Code, Chapter 65 Noise Control

B. Local Government Noise Ordinances

C. Turbidity - 6NYCRR 703.2 - No increase that will cause a substantial visible contrast to natural conditions.

D. Light Trespass – In accordance with Local Ordinances

E. Odor - TITLE 6. DEPARTMENT OF ENVIRONMENTAL CONSERVATION CHAPTER III. AIR RESOURCES SUBCHAPTER A. PREVENTION AND CONTROL OF AIR CONTAMINATION AND AIR POLLUTION - Air pollution is the presence of an air contaminant, including odor, "which unreasonably interferes with the comfortable enjoyment of life and property."

F. Fugitive Dust - Clean Air Act - Particulate Matter (PM) Air Quality Standards.

G. Vibration – New York State Department of Transportation Engineering Instruction 05- 045.

1.3 SUBMITTALS

A. Nuisance Controls and Management Plan
   1. Plan to provide advance notification
   2. Nuisance monitoring plan
   3. Complaint resolution approach (and Summary Form)
   4. Issues of concern with existing and anticipated nuisances must be defined within the Nuisance Control and Management Plan, including the Contractor's resolution to complete the work of the Contract Documents

B. The CONTRACTOR shall develop a one-page summary of general practices for nuisance management and clearly display on site. Operating hours, delivery times, truck routes, and extra considerations for works during sensitive times could also be included in the summary.

C. Monitoring Reports

D. Community Relations Liaison Qualifications
   1. The Contractor will submit resume/qualifications of their Community Relations Liaison person.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 COMMUNITY CONSULTATION

A. Community consultation is an essential part of managing nuisances associated with the construction project. All communications shall be coordinated with the Engineer and the Department.

B. Contractor shall:
   1. Establish good working relationships with community stakeholders such as nearby residents, the school district, and businesses
   2. Give and receive feedback on construction activity and performance during a project discuss the community's concerns and be proactive in complaint resolution.
   3. As part of a community consultation strategy, neighboring premises shall be given written notification of upcoming work activities in their vicinity. The information should outline the type and duration of works, likely nuisance impacts, and provide contact details (mobile phone number of Community Liaison Person) for feedback and/or complaints resolution.
   4. The minimum notification period shall be 48 hours before noisy work is scheduled. Longer notification periods of a week or more may apply to work likely to exceed the Local regulation noise or other levels or at the start of a project.
   5. Methods of notification for work and ongoing communication about project progress can include:
      a. letterbox drops
      b. meetings
      c. individual contact
      d. direct emails to all stakeholders.

3.2 COMPLAINT RESOLUTION

A. The contractor shall immediately notify DEPARTMENT and the ENGINEER and respond respectfully to a complaint and implement all feasible and reasonable measures to address the issue.

B. It is particularly important to respond when the complaint refers to disturbed sleep and/or noise that is tonal (beeping, metal-on-metal), impulsive (hammering, pile driving) or low frequency (truck engine, heavy machinery).

C. The contractor shall have a readily accessible contact point (mobile phone number of Community Liaison Person) for managing complaints. The contractor shall call back as soon as possible, and then maintain communication about how the issue is to be resolved.

D. The complaint management process shall be well documented, with details about the following:
   1. the nuisance in question
   2. the time of the complaint and the person making it.
   3. the person dealing with the complaint and planned corrective action.
   4. how resolution of the complaint is to be communicated to the person who made the complaint, the community and the Engineer

5. who shall be contacted if the complaint cannot be resolved, and
6. the time taken for responses.

3.3 SCHEDULING WORK AND RESPITE PERIODS

A. In general, the instance and duration of work expected to adversely disturb the community should be minimized. This is particularly important for night and other out- of-hours work.

B. Scheduling work to provide respite and avoid sensitive times is a vital part of responsible nuisance management.

C. The following are examples of sensitive times that may require special consideration:
   1. resident sleep periods
   2. shopping plaza deliveries
   3. school activities (e.g. outdoor classes, sporting events, exams, etc.)

D. The contractor shall consult with affected parties, such as the examples given above, and then arrange appropriate periods of respite from work likely to disturb them. The scheduled respite times shall then be communicated to the relevant parties.

E. On a typical weekday, more frequent respite periods shall be provided where possible, especially during very disturbing work. For example, a break of 15-20 minutes for every hour of jack-hammering may be a suitable way to manage noise impacts, if there has been appropriate communication

F. The Contractor shall consider the option of relocating people for short periods of time, such as when high noise levels from construction occur at night and there is no other feasible or reasonable way to reduce noise levels.

G. The contractor shall weigh the benefits of avoiding sensitive periods against the increased costs and additional time taken on the job. Explaining the various options to affected parties will help develop a fair and balanced approach.

3.4 WORK PRACTICES

A. General:
   1. CONTRACTOR shall communicate nuisance reduction commitments to staff. Workers and sub-contractors shall be trained to follow nuisance management practices. Nuisance management issues shall be integrated into H&S “tail-gate” meetings.
   2. The CONTRACTOR shall develop a one-page summary of general practices for nuisance management and clearly display on site. Operating hours, delivery times, truck routes, and extra considerations for works during sensitive times could also be included in the summary. Workers shall be reminded about these commitments during daily “tail-gate” meetings.
   3. Monitoring - The contractor shall periodically check the site and local area for nuisance problems and actively manage nuisance issues before and as they arise.

B. Noise and Vibration:
   1. The Contractor shall implement work practices to reduce noise complaints, particularly important at night or during sensitive times.

2. General construction activities shall be carried out in the following ways:
    a. Minimize metal-on-metal contact.
    b. Avoid dropping items from a height.
    c. Use equipment sensibly: Turn off equipment when not in use. Throttle settings shall be reduced if possible.
    d. Require appropriate staff conduct: Staff shall not use loud radios and/or stereos outdoors during sensitive times, such as early in the morning in a residential area. Shouting or swearing, loud talking and slamming vehicle doors should be avoided.
    e. Public Announcement (PA) systems are not allowed.
    f. Use noise shields/acoustic curtains around higher noise operations.
    g. Manage truck noise: Noise from trucks is a common issue, especially near residences. Scheduling and management of truck movements is important to reduce issues associated with reverse beepers, engine noise and general off-site activity.
    h. Plant and equipment – CONTRACTOR shall endeavor to use low-noise, low- vibration well-maintained equipment where feasible and reasonable.
    i. Equipment Selection - Consideration of equipment noise and vibration levels shall be part of each stage of project planning and contract specification.
3. The CONTRACTOR shall evaluate different types of equipment that do the same job and compare the noise and vibration level data. Noise and vibration emission labels are often provided on equipment and can be used to assist in this process. The following items shall be considered in the evaluation; high-quality mufflers, acoustic enclosures, low-noise tool bits/blades and inquire from suppliers about lower-noise equipment.
4. Alternative equipment - Compressors for pneumatic equipment shall be silenced, enclosed and located appropriately. Hydraulic or electrical equipment shall be considered as viable alternatives. Care must be taken with the location of any generators and supply lines when electrical equipment is proposed to be used to replace diesel or petrol engines. Impacts from noisy excavation and demolition works shall be reduced by alternative work methods.
5. Maintenance - A key commitment for any project is to ensure that:
    a. equipment is not operated if maintenance or repairs would eliminate or significantly reduce a characteristic of noise, vibration or other disturbance resulting from its operation'.
    b. Equipment shall be in good working order, and where there is a fault or maintenance issue creating the disturbance, it must be dealt with before it is used.
    c. CONTRACTOR shall regularly check the condition of mufflers, enclosures and air lines, for example, to make sure they are in good working order and that there are no gaps or leaks. An ongoing inspection and maintenance process shall be established and included in the Work Plan.
    d. Equipment that is causing excessive nuisance impacts in a manner that is not typical for the equipment shall be removed from the site.
6. Alternatives to traditional 'beeper' alarms
7. The traditional 'beeper' alarms for mobile equipment can create a nuisance during projects where there is a lot of movement (such as prolonged use of scissor lifts) or if works are being conducted at night.
8. Some examples of alternatives that are less disturbing include:
    a. 'Smart alarms' that adjust their volume depending on the ambient level of noise. These are particularly useful during operations in quieter suburban areas, where other noise on the site is less, or when works take place during quieter periods such as early morning.
    b. 'Broadband' or 'quacker' alarms. These emit a less annoying sound and are more

directional. This means the sound is focused to the area of concern and is less likely to travel to noise-sensitive areas.

c. The use of these alternative technologies must be:
    1. determined by a competent person based on an assessment of the site, its conditions and on the machines involved
    2. compatible with the machines so it does not adversely affect their operation
    3. accompanied by specific procedures for installation and maintenance to ensure correct operation
    4. communicated to all site staff to ensure they are aware of the new alarm and how it works.
    5. The requirements of relevant occupational health and safety must be complied with in all cases.

C. Site planning, barriers and layout:
    1. Disturbances shall be managed by appropriately arranging site orientation and operations. These principles need to be addressed during early project stages, when there is greater flexibility to plan for nuisance management.

D. Managing disturbances from trucks/mobile equipment:
    1. The site layout shall be arranged to avoid the need for truck reversing. Drive- through parking and deliveries with a one-way thoroughfare is one method that shall be investigated.
    2. An area away from residential dwellings shall be selected for off-site truck parking when vehicles arrive before site opening hours. Engineer may require that trucks wait away from the site in a less sensitive area or other areas/options may be suggested depending on the nature of the site. For larger projects, traffic controllers can be used to direct trucks that arrive out of approved times or to instruct drivers to turn off their engines when stationary.
    3. The contractor shall designate a truck route that minimizes noise impacts and clearly communicate to drivers the requirements for arrival times, vehicle movements, idling reduction and general conduct, and/or include these requirements as a condition of the sub-contract.
    4. Deliveries to construction sites shall be scheduled to occur only within the allowed times. Fewer vehicles with larger loads, rather than a number of smaller vehicles, can help reduce noise impacts. Options may be limited by site access and scale, with larger sites usually providing a greater level of flexibility.
    5. Other considerations, such as safety and traffic impacts, will apply when looking at truck access and routes.

E. Location of plant and equipment:
    1. The Contractor shall aim to locate plant and equipment away from sensitive sites, thereby maximizing the distance from affected parties.
    2. When plant and equipment needs to be located close to noise sensitive areas, restricting the hours of operation should be considered.
    3. When possible, noisy fabrication work shall be done off site and transported to the site at a later date.
    4. Use the site to shield sources of noise

5. Temporary barriers shall be constructed and existing site materials may be useful in this regard.
6. General principles for barriers – breaking ‘line of sight’
7. Barriers shall be used to break the ‘line of sight’ between the noisy works and the noise-sensitive areas (when looking towards the noise source from the location receiving the noise).
8. Barriers shall be located as close as possible to the noise source or sensitive receiver. There shall be no gaps or openings at joints in the barrier material and barriers need to be sufficiently dense. In general, material weighing at least 10 kg/m^2 should be used.
9. Barriers shall be sufficiently high and wide, as sound can carry around the structure. In cases where the affected location is in a high-rise development, barriers may not be useful, as the height will not be enough to break ‘line of site’ to the noise received.
10. Barriers around a noise source shall be constructed with a length at least 10 times greater than its height. For shorter barriers, it may help to bend or wrap the barrier around the equipment.
11. Acoustic sheds shall be considered for very noisy operations where it is possible to contain the plant and equipment. As with barriers, the shed shall be of sufficient density and suitable construction, with seals on doors and internal treatments to reduce noise reverberation. Ventilation and general occupational health and safety requirements also need to be considered.
12. It is important to recognize that large reflecting surfaces, such as concrete or glass walls, may increase noise levels, as the sound can ‘bounce’ off and be magnified. The builder/contractor shall avoid placing equipment in locations where reflected noise will increase noise exposure.
13. In most cases, vibration induced by typical construction equipment may not result in adverse effects on people or structures. Noise from the equipment typically overshadows any meaningful ground vibration effects on people. Some equipment, however, including vibratory rollers, can create high vibration levels.
    Because of the nature of these types of devices, the options for reducing vibration may be limited. Maximizing the distance between the source and receiver should be considered to the extent practical. Conducting work when most people are not in the area (e.g., at work) or when sensitive equipment is not operating can avoid or minimize adverse impacts.
14. In some circumstances, temporary relocation of residents during these operations may be appropriate. In the absence of measures that can physically reduce induced ground vibration, informing the public about the project and potential vibratory impacts should be performed to avoid adverse reactions from the public. The Contractor must be sensitive to the needs of the community, including testing timeframes at the schools and other nearby activities which may result in adverse reactions from the public.
15. Requiring trucks delivering and picking up at the site to reduce unnecessary engine idling.

F. Fugitive Dust:
1. Control of dust will be a high priority during remediation activities. The primary mechanism for dust control will be the use of water trucks for example with a spray bar and hose(s) or other appropriate methods for the work being performed. Only potable water will be used for dust control purposes. Proactive controls will be instituted to reduce the amount of dust generation during Site activities, including enforcement of low speed limits for vehicular traffic,

decontamination of trucks leaving the remediation work areas and height limits for stockpiles, if applicable.

2. The Contractor will implement a dust control training program for all Site personnel. This training program will review the potential sources of dust, individual responsibilities, and actions for controlling dust as described in this plan. The training will emphasize the importance of dust control to the overall success of the remedial activities and familiarize Site personnel with the air monitoring requirements and appropriate dust control procedures that must be adhered to in accordance with this plan to minimize dust generation.
3. Bulk material piles will not be created other than while gathering material to load into trucks (e.g., pulling soil into a pile for the excavator to load into trucks). If any bulk material piles are left on the site overnight (e.g., due to equipment failure, transportation delays, etc.), they will be tarped as necessary to limit wind- blown dust. All trucks being utilized for transport and disposal of excavated material at the Site are required to be fitted with solid, sliding or slot-top type covers with no gaps when fully deployed. Trucks shall be covered immediately after loading and are to remain covered throughout the transportation and disposal of excavated material. The cover must not contact the excavated material and must be installed in such a way to prevent wind from entering over the leading edge of the trailer rim.
4. Following the soil excavation, a geotextile marker barrier will be installed prior to backfilling the excavated area with clean fill material. The geotextile barrier will minimize any visible dust generation from this soil layer during backfilling activities.
5. The Contractor shall conduct operations and maintain the Site as to minimize the creation and dispersion of visible dust. Clean water, provided by the Contractor, shall be applied to the Site as necessary to prevent dust during excavation, loading/unloading, and backfilling activities. Excavation areas and on-site roadways will be kept damp, as necessary, without creating ponding or mists that travel beyond the defined boundaries of the work. The watering operations shall be sufficient to control fugitive dust. Tanker trucks will be utilized to provide and apply clean water as needed.
6. Water shall be applied in a manner to prevent runoff. As a contingency measure, the Contractor will have erosion and sedimentation controls, such as silt fencing, sediment logs, or manhole silt screens, installed as necessary to manage runoff.
7. Transfer points refer to any time material is loaded or unloaded during removal activities. For the purposes of this project, the primary transfer points of concern will be the transfer of soil material from the excavator or processing area to a waiting truck. The secondary transfer points of concern will be the unloading of the clean soil for use in backfilling of excavated areas. At all transfer points, the following guidelines will be maintained:
8. During loading of impacted soil, the material must be moist during the transfer, and the transfer shall be into an overhead truck trailer only. The material drop into the trailer must not exceed 4 feet.
9. All trucks entering and leaving the Site will adhere to the posted speed limit, which shall be no more than 8 miles per hour (mph).
10. All trucks shall adhere to the established tarping policy.
11. All trucks leaving unpaved areas to paved areas of the public ROW (i.e., sidewalk or street), whether full or empty, will be visually inspected for loose material. Stabilized construction exits (e.g., 3- to 6-inch cobblestone or rip rap placed on top of a geotextile) will be used to assist with cleaning of truck tires as the vehicles leave unpaved areas. Any loose material is to be removed and placed into the truck trailer.
12. In order to keep roadways clean and free of accumulation, the Contractor will coordinate with the Town of Islip and the local waste disposal facility for routine street sweeping during removal activities. The street sweeper must be equipped with a water spray and vacuum system to prevent fugitive dust. Street sweeping must be completed at the end of every day or as needed, but at a minimum of once a day.

13. Sidewalks and rights of way and public, where trucks will need to cross the sidewalk to enter/exit the Site, will be maintained in a “broom clean” condition at all times by using a skid steer loader (e.g., BobCat) equipped with a power broom or manual tools (e.g., push broom, shovels, etc.).
14. All trucks are to take the most efficient and direct route to the disposal facility as possible.
15. Spraying dusty wastes with water as they are unloaded.
16. Ensuring that street sweeping operations use enough water to avoid kicking up dust.

G. Turbidity:
1. Best Management Practices (BMP) are the actual practices--including the forms, procedures, charts, software references, etc.--actually used by dredgers to minimize consequences of dredging and disposal on water quality. Common BMPs include Silt Curtains, Gunderbooms, and Operational Controls.
2. Silt curtains are intended to allow suspended sediment at a dredging site to settle out of the water column in a controlled area, minimizing the area that is affected by the increased suspended sediment usually present at a dredging site. A silt curtain is an impermeable barrier. They are constructed of a flexible reinforced thermoplastic material. The upper hem has floatation material and the lower hem has ballast material. Silt curtains ae most effective when used on a project where they are not opened and closed to allow equipment access to the dredging or disposal area. Silt curtains are also limited to project locations with less than 1-2 knot currents.
3. There are three fundamental controls possible with mechanical dredges:
    a. Increase cycle time. Longer cycle time reduces the velocity of the ascending loaded bucket through the water column, which reduces potential to wash sediment form the bucket. However, limiting the velocity of the descending bucket reduces the volume of sediment that is picked up and requires more total bites to remove the project material. The majority of the sediment resuspension, for a clamshell dredge, occurs when the bucket hits the bottom.
    b. Eliminate multiple bites. When the clamshell bucket hits the bottom, an impact wave of suspended sediment travels along the bottom away from the dredge bucket. When the clamshell bucket takes multiple bites, the bucket loses sediment as it is reopened for subsequent bites. Sediment is also released higher in the water column, as the bucket is raised, opened, and lowered.
    c. Eliminate bottom stockpiling. Bottom stockpiling of the dredged sediment in silty sediment has a similar effect as multiple bite dredging; an increased volume of sediment is released into the water column from the operation.
4. There are three fundamental controls possible with hydraulic dredges:
    a. Reduce cutterhead rotation speed. Reducing cutterhead rotation speed reduces the potential for side casting the excavated sediment away from the suction entrance and resuspending sediment. This measure is typically effective only on maintenance or relatively loose, fine grain sediment.
    b. Reduce swing speed. Reducing the swing speed ensures that the dredge head does not move through the cut faster than it can hydraulically pump the sediment. Reducing swing speed reduces the volume of resuspended sediment. The goal is to swing the dredge head at a speed that allows as much of the disturbed sediment as possible to be removed with the hydraulic flow. Typical swing speeds are 5-30 feet/minute.
    c. Eliminate bank undercutting. Dredgers should remove the sediment in maximum lifts equal to 80% or less of the cutterhead diameter.
5. There are three controls possible with dredges and barges:

a. Eliminate or reduce hopper overflow. Eliminating or reducing hopper overflow reduces the volume of fine material which flows from the hopper in the overflow. One caution is that this control may significantly reduce project production for hopper dredges or when hydraulic dredging into a barge.
b. Lower hopper fill level. Lowering the hopper fill level in rough sea conditions can prevent material loss during transport.
c. Recirculation system. Water from the hopper overflow can be recirculated to the draghead and is used to transport more material into the hopper.

6. Pneuma Pump. The Pneuma pump is used primarily for removal of fine-grained sediment. The Pneuma pump offers high solids concentration (up to 90%) in the dredge slurry, with minimal turbidity.
7. Closed or environmental bucket. Specially constructed dredging buckets designed to reduce or eliminate increased turbidity of suspended solids from entering a waterway.
8. Large capacity dredges. Larger than normal dredges designed to carry larger loads. This allows less traffic and fewer dumps, thereby providing less disturbance at a disposal site.
9. Precision Dredging. Dredging utilizing special tools and techniques to restrict the material dredged to that specifically identified. This may mean thin layers, either surficial or imbedded, or specific boundaries.

H. Disruptive Lighting:
1. Light Trespass. The lighting system shall be designed to effectively light the work area without spilling over to adjoining property. When, in the opinion of the Engineer, the lighting is disturbing adjoining property, the Contractor shall modify the lighting arrangement or add hardware to shield the light trespass.
2. Every effort should be made to control artificial light escaping from a site for example the fitting of diffusers/guards, ensuring there is no light overspill into neighboring properties.
3. All lighting shall be designed, installed, and operated to avoid glare that affects traffic on the roadway or that causes annoyance or discomfort for residences. The Contractor shall locate and aim lighting fixtures to provide the required level of illumination and uniformity in the work zone without the creation of objectionable light trespass.

I. Odor:
1. Proper Drainage: Standing water is a potential source of odors. The operations area will be on a surface that is sloped to facilitate drainage and prevent standing water. The grade will be maintained to prevent ponding. General spill control programs and curbing will be in place as appropriate. The material handling areas are covered by a canopy and protected from storm water if needed to control ponding of water which has been in contact with contaminated sediments.
2. Personnel training: Personnel will be trained in the proper use of equipment. Potential hazards and safety features will be stressed as well as handling procedures to minimize the potential production of odors, such as leaving stockpiled sediments uncovered unnecessarily.
3. Some of the operating procedures that can help reduce odors include:
   a. “First-in, first-out” waste handling practices that keep waste on site only for short periods of time.
   b. Removing all waste from loading areas by the end of each operating day so that these surfaces can be swept clean and washed down as needed.
   c. “Good housekeeping” measures, including regular cleaning and disinfecting of surfaces if appropriate and equipment that come into contact with waste.
   d. Water misting and/or deodorizing systems.
4. Below are the activities that can cause odor nuisances on-site along with Reasonable Available Control Measures & Methods to help reduce potential odors:

a. Movement of Transport Trucks Entering/ Exiting Site - Hauling materials in properly tarped or watertight containers to prevent odor; Limit haul trucks to 3 minutes idle time; and Applying foam suppressant such as BioSolve.
b. Equipment Operating On-Site -Turning off equipment that is not in active use; Limiting the amount of equipment used at one time while on-site; and Applying foam suppressant such as BioSolve.
c. Excavated Materials - Limiting amount of exposed areas or amount of time materials are exposed to the open atmosphere; and Applying foam suppressant such as BioSolve.
d. Soil/Debris moved by equipment to Stockpile Areas - Limiting amount of exposed areas or amount of time materials is exposed to the open atmosphere; Turning off equipment that is not in active use; Limiting the amount of equipment used at one time while on-site; and Applying foam suppressant such as BioSolve.
e. Stockpiles - Covering stockpiles and material after activity ceases with Poly Sheeting & securing with sandbags (or equivalent); and Applying foam suppressant such as BioSolve.
f. Removed water prior to treatment or disposal - Setting up site drainage & preventing standing water.
g. Work Zones (Exclusion Zone) -Performing Housekeeping; Daily cleaning up (Free of trash, garbage, & debris); Properly disposing of any odorous material; and Applying foam suppressant such as BioSolve.

3.5 CORRECTIVE MEASURES

A. Nuisance conditions which represent a potential health and safety concern and/or migration of contaminated materials (e.g., visible dust or visible contrast from turbidity) will result in an immediate stoppage of the work.

B. Following a work stoppage, appropriate corrective measures as determined by Engineer will be implemented prior to work resuming.

C. Chronic or repeated incidents of nuisance issues will result in the disallowance of a day of compensation for site services and health and safety.

D. A written corrective measures plan will be submitted for any work stoppage, or chronic or repeated incidents of nuisance issues, if requested by the Engineer.

++ END OF SECTION ++

SECTION 01 77 19

CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.1 GENERAL

A. Scope:
   1. Close-out procedures shall conform with General Conditions, Section VIII, Article 13 for:
      a. Substantial Completion.
      b. Final inspection.
      c. Request for final payment and acceptance of the Work.

1.2 SUBSTANTIAL COMPLETION

A. Substantial Completion – General:
   1. Prior to requesting Substantial Completion, perform the following for the substantially completed Work:
      a. Materials and equipment for which Substantial Completion is requested shall be fully ready for their intended use, including full operating and monitoring capability in automatic and manual modes.
      b. Complete field quality control Work, including testing at the Site, indicated in Specifications Sections for individual materials and equipment items. Submit results of, and obtain ENGINEER's acceptance of, field quality control tests required by the Contract Documents.
      c. Submit and obtain ENGINEER's acceptance of final operations and maintenance manuals.
      d. Obtain and submit to ENGINEER all required permits, inspections, and approvals of authorities having jurisdiction for the substantially completed Work to be occupied and used by DEPARTMENT.
      e. Complete other tasks that the Contract require be completed prior to Substantial Completion.
   2. Procedures for requesting and documenting Substantial Completion are in the General Conditions, Section VIII, Article 13.6 .
   3. Sample letter for CONTRACTOR to request inspection for Substantial Completion is attached to this Specifications Section. Use the model language of the sample letter, modified to suit the Project.
   4. Unless decided otherwise by DEPARTMENT and ENGINEER, form of certificate of Substantial Completion will be EJCDC® C-625, "Certificate of Substantial Completion" (2013 edition), prepared by ENGINEER.
   5. Refer to the General Conditions, Section V111, Article 13.8, for requirements regarding consent of surety to partial release of or reduction in retainage.

1.3 FINAL INSPECTION

A. Final Inspection shall be performed in accordance with General Conditions, Article 13.9:
   1. Prior to requesting final inspection, CONTRACTOR verify that all of the Work is fully complete and ready for final payment. A checklist for this purpose is attached to this Specifications Section.
   2. Sample letter for CONTRACTOR to request final inspection is attached to this Specifications Section. Use the model language of the sample letter, modified to suit the Project.
   3. Procedures for requesting and documenting the final inspection are in the General Conditions, as may be modified by the Supplementary Conditions, and as augmented in this Section.

1.4 REQUEST FOR FINAL PAYMENT AND ACCEPTANCE OF THE WORK

A. Procedure:
   1. Submit request for final payment in accordance with the Agreement and General Conditions, as may be modified by the Supplementary Conditions this Section.
   2. Acceptance of the Work:
      a. Upon ENGINEER's receipt of the final Application for Payment, accompanied by other required Contract closeout documentation in accordance with the Contract Documents, ENGINEER will issue to DEPARTMENT and CONTRACTOR a notice of acceptability of the Work, in accordance with the General Conditions, as may be modified by the Supplementary Conditions.
      b. Nothing other than receipt of such notice of acceptability from ENGINEER constitutes acceptance of the Work.
      c. Unless decided otherwise by DEPARTMENT and ENGINEER, form of acceptance will be EJCDC® C-626, "Notice of Acceptability of Work", (2014 edition).

B. Request for final payment shall include:
   1. Documents required for progress payments in accordance with Contract Section VIII Article 13, Payments to Contractor.
   2. Documents required in the General Conditions, as may be modified by the Supplementary Conditions.
   3. List of all disputes that CONTRACTOR believes are unsettled.
   4. Consent of Surety to Final Payment:
      a. Acceptable form includes AIA® G707™, "Consent of Surety to Final Payment" (1994 or later edition), or other form acceptable to DEPARTMENT.
   5. Releases or Waivers of Lien Rights:
      a. When submitting releases or waivers of Lien rights, furnish release or waiver by CONTRACTOR and each Subcontractor and Supplier that provided CONTRACTOR, Subcontractor, or Supplier with labor, material, or equipment totaling $1,000.00 or more for the Contract.
      b. Furnish final list of Subcontractors and Suppliers, indicating final amount of the associated subcontract or purchase order for each. Include on the

list all lower-tier Subcontractors and Suppliers retained by Subcontractors and Suppliers with direct subcontract or purchase order with CONTRACTOR.

c. Each release or waiver of Lien shall be signed by an authorized representative of the entity submitting release or waiver of Lien, and shall include CONTRACTOR's, Subcontractor's, or Supplier's (as applicable) corporate seal, when applicable.

d. Release or waiver of Lien may be conditional upon receipt of final payment.

6. Affidavits:

a. In lieu of the release or waiver of Liens, CONTRACTOR may submit the following, for CONTRACTOR and each Subcontractor and Supplier that provided CONTRACTOR, Subcontractor, or Supplier with labor, material, or equipment totaling $1000 or more, to DEPARTMENT's satisfaction:

1) Affidavit of payment of debts and claims. Acceptable form includes AIA® G706™, "Contractor's Affidavit of Payment of Debts and Claims" (1994 or later edition), or other form acceptable to DEPARTMENT, and;

2) Affidavit of release of Liens. Acceptable form includes AIA® G706A™, "Affidavit of Release of Liens" (1994 or later edition), or other form acceptable to DEPARTMENT.

b. Affidavits and supporting documents furnished under this Paragraph 1.4.B.6 shall comply with the requirements of the General Conditions, as may be modified by the Supplementary Conditions.

c. Each affidavit furnished shall be signed by an authorized representative of the entity furnishing the affidavit, and shall include CONTRACTOR's, Subcontractor's, or Supplier's (as applicable) corporate seal, when applicable.

7. Evidence satisfactory to DEPARTMENT that all title issues have been resolved such that title to all Work, materials, and equipment has passed to DEPARTMENT free and clear of Liens or other title defects or will so pass upon final payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 ATTACHMENTS

A. The documents listed below, following this Section's "End of Section" designation, are part of this Specifications Section:
   1. Sample letter for CONTRACTOR's use in requesting inspection for Substantial Completion (two pages).
   2. Sample partial checklist to identify readiness for final inspection (four pages).
   3. Sample letter for CONTRACTOR's use in requesting final inspection (one page).

B. In the model language of the attached sample letters for the CONTRACTOR to request inspection for Substantial Completion and the final inspection, italicized language in brackets, e.g., "[*insert date*]" indicates instructions to the drafter of the letter and often indicates specific information to be inserted by CONTRACTOR; do not include bracketed, italicized text in the final version of the letter(s) prepared for the Project. Non-italicized language in brackets is optional language; use the appropriate language to complete the actual letter for the Project and edit where required to suit the specific circumstances.

+ + END OF SECTION + +

SAMPLE LETTER FOR CONTRACTOR'S USE IN REQUESTING INSPECTION FOR SUBSTANTIAL COMPLETION

SENT VIA E-MAIL AND U.S. CERTIFIED MAIL/RETURN RECEIPT REQUESTED

[*Date*]

[*Name of Engineer's contact person*]
[*Engineer's Name*]
[*Street address*]
[*City, state, postal code*]

Subject:
[*Project name, Contract designation*]
Request for Inspection for Substantial Completion

Dear [*addressee*]:

In our opinion, [all of] [*or*] [a portion of] the Work under the above-referenced Contract is substantially complete as of [*insert month, day, year on which Substantial Completion was achieved*]. [The specific portion of the Work that we believe is substantially complete is [*insert identification of that portion of the Work that is substantially complete*].]

Enclosed is our listing of uncompleted Work items ("punch list"). In accordance with the General Conditions, we hereby request: 1) That the Engineer schedule and perform the inspection for Substantial Completion as soon as possible, and 2) Issuance of the certificate of Substantial Completion.

In accordance with the General Conditions, upon Substantial Completion, we propose the following relative to apportionment of responsibilities between the DEPARTMENT and the CONTRACTOR:

1. Security, Protection, Insurance:
    a. Site Security: [*insert proposal; address whether DEPARTMENT or CONTRACTOR will be responsible for security of the Site*].
    b. Protection of the Substantially Completed Work: [*insert proposal; address whether DEPARTMENT or CONTRACTOR will be responsible for protection*].
    c. Property Insurance: [*insert proposal; typically DEPARTMENT assumes responsibility for property insurance upon Substantial Completion*]
2. Operation and Maintenance:
    a. Operation: [*insert proposal; address whether DEPARTMENT or CONTRACTOR will be responsible for operating the substantially completed Work*].

b. Maintenance: [*insert proposal; address whether DEPARTMENT or CONTRACTOR will be responsible for maintaining the substantially completed Work*].

3. Utilities: [*for each of the following, indicate whether DEPARTMENT or CONTRACTOR will be responsible for utilities and services, or whether responsibility will be shared; if shared, indicate proposed cost-sharing*]
   a. Electricity: [*insert proposal*].
   b. Natural Gas/Fuel/Heating: [*insert proposal*].
   c. Water Supply: [*insert proposal*].
   d. Wastewater: [*insert proposal*].
   e. Communications (Telephone, Internet, Video): [*insert proposal*].

In accordance with the General Conditions, we understand that the Contract's correction period for the Work covered by the certificate of Substantial Completion commences on the Substantial Completion date documented in said certificate

Should you have questions or comments regarding this notice, please contact [the undersigned] [*or*] [*insert other contact person's name*], at [*insert telephone number and e-mail address*].

Sincerely,

[*CONTRACTOR's company name*]

[*Signatory name*]
[*Signatory's title*]

Attachments:
Preliminary list of uncompleted Work items ("punch list"; [##] pages)

Copies:
[*DEPARTMENT's project manager*]

SAMPLE CHECKLIST TO IDENTIFY READINESS FOR FINAL INSPECTION

Project: _____
Contract: _____
Contractor: _____

Item No./Description	Completed/Date		In Progress	Not Started	Not Applicable	Target Date	Responsible Entity/Person
1. All Shop Drawings, Samples, and Submittals approved by Engineer	☐		☐	☐	☐		
Remarks:							
2. Final services completed by Suppliers	☐		☐	☐	☐		
Remarks:							
3. Final Work completed by Subcontractors	☐		☐	☐	☐		
Remarks:							
4. Permits closed out and regulatory compliance transitioned from construction to operations	☐		☐	☐	☐		
Remarks:							
5. All outstanding change issues are addressed and all Change Proposals submitted	☐		☐	☐	☐		
Remarks:							

Item No./Description	Completed/Date		In Progress	Not Started	Not Applicable	Target Date	Responsible Entity/Person
6. All Claims are resolved	☐		☐	☐	☐		
Remarks:							
7. All defective Work of which Contractor is aware has been corrected in accordance with the Contract Documents	☐		☐	☐	☐		
Remarks:							
8. Issues related to Constituents of Concern and potential Hazardous Environmental Condition have been fully addressed	☐		☐	☐	☐		
Remarks:							
9. All spare parts, tools, and extra stock materials have been furnished in accordance with the Contract Documents, and documentation thereof submitted to Engineer	☐		☐	☐	☐		
Remarks:							
10. All final Operations & Maintenance manuals have been submitted and accepted by Engineer	☐		☐	☐	☐		
Remarks:							
11. Manufacturer warranties and	☐		☐	☐	☐		

Item No./Description	Completed/Date		In Progress	Not Started	Not Applicable	Target Date	Responsible Entity/Person
software license(s) furnished							
Remarks:							
12. Instruction and training of operations and maintenance personnel is complete, and records of training submitted	☐		☐	☐	☐		
Remarks:							
13. MBE/WBE/DBE compliance report(s) submitted (when applicable)	☐		☐	☐	☐		
Remarks:							
14. All field engineering submittals, including survey data, furnished	☐		☐	☐	☐		
Remarks:							
15. All Work on "punch list" is complete in accordance with the Contract Documents	☐		☐	☐	☐		
Remarks:							
16. All record documents submitted to and accepted by Engineer	☐		☐	☐	☐		
Remarks:							
17. Contractor is fully demobilized from Site	☐		☐	☐	☐		
Remarks:							

Item No./Description	Completed/Date		In Progress	Not Started	Not Applicable	Target Date	Responsible Entity/Person
18. All Site restoration is complete	☐		☐	☐	☐		
Remarks:							
19. Final cleaning of all work areas is complete	☐		☐	☐	☐		
Remarks:							
20. Lien waivers or affidavits of payment obtained from Subcontractors and Suppliers	☐		☐	☐	☐		
Remarks:							
21. Evidence of Contractor liability insurance furnished for correction period	☐		☐	☐	☐		
Remarks:							
22. All other required Contract closeout documents obtained	☐		☐	☐	☐		
Remarks:							

SAMPLE LETTER FOR CONTRACTOR'S USE IN REQUESTING FINAL INSPECTION

SENT VIA E-MAIL AND U.S. CERTIFIED MAIL/RETURN RECEIPT REQUESTED

[*Date*]

[*Name of Engineer's contact person*]
[*Engineer's Name*]
[*Street address*]
[*City, state, postal code*]

Subject:
[*Project name, Contract designation*]
Request for Final Inspection

Dear [*addressee*]:

In our opinion, all of the Work under the above-referenced Contract is complete and ready for final payment as of [*insert month, day, year on which final completion was achieved*]. In accordance with the General Conditions, we hereby request that the Engineer schedule and perform the final inspection as soon as possible. Upon successful completion of the final inspection, we will submit our final Application for Payment accompanied by the required Contract closeout documentation in accordance with the Contract Documents.

Should you have questions or comments regarding this notice, please contact [the undersigned] [*or*] [*insert other contact person's name*], at [*insert telephone number and e-mail address*].

Sincerely,

[*Contractor's company name*]

[*Signatory name*]
[*Signatory's title*]

Attachments:
None

Copies:
[*DEPARTMENT's project manager*]

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SECTION 01 77 23

INSPECTIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for the Substantial Completion, Final Completion, and any specified Warranty inspections and is coordinated with the payment provisions of the General Conditions, Section VIII, Articles 13.6 through 13.13.
   2. 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 specified is substantially complete. Within a reasonable time thereafter, not to exceed 30 days, DEPARTMENT, CONTRACTOR and ENGINEER shall make an inspection of the Work, or portion thereof, to determine status of completion. A tentative certificate of Substantial Completion shall fix the date of Substantial Completion, with an attached list of items to be completed or corrected prior to final payment.
   3. Shortly before the end of the Substantial completion period required under the General Conditions, ENGINEER will schedule with DEPARTMENT and CONTRACTOR the inspection and will advise DEPARTMENT and CONTRACTOR in writing of the date and time for the inspection.

B. CONTRACTOR's project manager shall attend the inspection.

C. Upon written notice from CONTRACTOR that the entire Work or agreed portion is complete, ENGINEER will make a final inspection with DEPARTMENT and CONTRACTOR. ENGINEER will notify CONTRACTOR in writing of all particulars in which this inspection reveals that work is either accepted or incomplete or defective.

D. After the final inspection, CONTRACTOR shall submit "final" Application for Payment in accordance with the final Application for Payment procedures of the General Conditions, as may be modified by the Supplementary Conditions, and the Specifications, including furnishing all required Contract closeout documentation and completion of all Work except for the inspection and associated correction Work (if any). DEPARTMENT will release remaining retainage withheld for the inspection following the inspection and completion of correction Work (if any), in accordance with progress payment procedures of the Contract, except that consent of surety to final payment shall accompany the last Application for Payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for Project record documents, to supplement the requirements of the Section VI Agreement including the General Conditions, as may be modified by the Supplementary Conditions.
   2. CONTRACTOR shall provide all labor, materials, equipment, and services to maintain and submit to ENGINEER Project record documents in accordance with the Contract Documents.
   3. Supplemental requirements to those stated in Section VIII, Article 5.19 for recording of field modifications made during construction, to be marked on a clean set of Contract documents by the Contractor (As-Built Documents) and for preparing Supplemental Record Drawings by the Surveyor to be submitted to the DEPARTMENT and ENGINEER. The As-Built Documents and Supplemental Record Drawings shall constitute the Project Record Documents.

B. Maintenance of Record Documents:
   1. Maintain in CONTRACTOR's field office, in clean, dry, legible condition, complete sets of the following record documents: Drawings, Specifications, Addenda, written amendments, Change Orders, Proposed Change Orders, field test records, construction photographs, Field Orders and written interpretations and clarifications 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. All changes from the contract which are made in the work, or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes.
   2. Provide files and racks for proper storage and easy access to record documents. File record documents in accordance with the edition of the Construction Specification Institute's *MasterFormat*™ used for organizing the Project Manual, unless otherwise accepted by ENGINEER.
   3. Promptly make record documents available for observation and review upon request of ENGINEER or DEPARTMENT. Requirements for review of record documents status as a condition precedent to progress payments in conformance with Section VIII, Article 13.

   4. Maintain in Contractor's field office in clean, dry, legible condition complete sets of the following:

a. Drawings
b. Specifications
c. Addenda
d. Approved Shop Drawings
e. Samples, Photographs
f. Change Orders
g. Other modifications to Contract Documents
h. Test Records
i. Survey Data
j. Field Orders
k. Other documents pertinent to Contractor's work
l. Contractor Daily Work Reports

5. Do not use record documents for any purpose other than serving as Project record. Do not remove record documents from CONTRACTOR's field office without ENGINEER's approval.
6. Make documents available at all times for inspection by ENGINEER and DEPARTMENT.

1.2 SUBMITTALS

A. Closeout Submittals: Submit the following:
1. Preliminary Record Documents:
a. The Contractor shall prepare As-Built Documents and the Surveyor shall prepare Supplemental Record Drawings. These documents (Project Record Documents) shall be submitted to the ENGINEER following substantial completion of the work (within 7 calendar days) for review and approval.
b. These documents shall be neat, legible and accurate.
c. If upon review, the documents are found to contain errors and/or omissions, they shall be returned to the Contractor and or Surveyor for corrections.
d. The Contractor and/or Surveyor shall complete the corrections and return the drawings to the ENGINEER within 10 calendar days for subsequent review.
e. Submit certified PDF electronic files.
f. Submit both printed record documents and electronic record documents, in accordance with Section 01 31 26, Electronic Communication Protocols.
g. Submit record documents with transmittal letter on CONTRACTOR letterhead in accordance with requirements in Section 01 33 00, Submittal Procedures.
2. Certifications:
a. Record documents submittal shall include certification, with original signature of official authorized to execute legal agreements on behalf of CONTRACTOR, reading as follows:

"[*Insert Contractor's corporate name*] has maintained and submitted Project record documentation in accordance with the General Conditions and Supplementary Conditions, Section 01 78 39, Project Record Documents, and other elements of Contract Documents, for the New York State Department of Environmental Conservation, City of Rome, Oneida County, New York, Remedial Construction Project – Former Rome Cable Site. We certify that each record document submitted is complete, accurate, and legible relative to the Work performed under our Contract, and that the record documents comply with the requirements of the Contract Documents.

[*Provide signature, print name, print signing party's corporate title, and date*]"

1.3 RECORDING CHANGES

A. Recording Changes – General:
   1. At the start of the Project, label each record document to be submitted as, "PROJECT RECORD" using legible, printed letters. Letters on record copy of the Drawings shall be two inches high.
   2. Keep record documents current consistent with the progress of the Work. Make entries on record documents within two working days of receipt of information required to record the change.
   3. Do not permanently conceal the Work until required information has been recorded for Project record documents.
   4. Accuracy of record documents shall be such that future searches for items shown on the record documents may rely reasonably on information obtained from ENGINEER-accepted record documents.
   5. Marking of Entries:
      a. Use erasable, colored pencils (not ink or indelible pencil) for marking changes, revisions, additions, and deletions to record documents.
      b. Clearly describe the change by graphic line and make notations as required. Use straight-edge to mark straight lines. Writing shall be legible and sufficiently dark to allow scanning of record documents into legible electronic files in portable document format (".PDF").
      c. Date each entry on record documents.
      d. Indicate changes by drawing a "cloud" around the change(s) indicated.
      e. Mark initial revisions in red. In the event of overlapping changes, use different colors for subsequent changes.

B. Drawings:
   1. Record changes on copy of the Drawings. Submittal of CONTRACTOR-originated or -produced drawings as a substitute for recording changes on a copy of the Drawings is unacceptable.
   2. Record changes on plans, sections, elevations, schematics, schedules, and details as required for clarity, making reference dimensions and elevations (to Project datum) for complete record documentation.

3. Record actual construction including:
    a. Installations of any kind or description known to exist within the construction area. The locations shall include dimensions to permanent features.
    b. The location and dimensions of any changes within the design features of any kind or description known to exist within the construction area. The locations shall include dimensions to permanent features.
    c. Correct grade or alignment of roads, structures, utilities, or project components.
    d. Correct elevations.
    e. Changes in details or dimensions.
    f. The topography and grades of all drainage structures installed or affected as part of the project construction.
    g. Additional information obtained from working drawings.
    h. Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the As-Built Documents.
    i. Additional work ordered by the ENGINEER or DEPARTMENT.
    j. Depths of various elements of foundation in relation to datum.
    k. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement.
    l. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
    m. The Surveyor retained by the Contractor shall prepare Supplemental Record Drawings (see Section 01 71 23, Field Engineering). A topographic survey of the site prior to and following earthwork. The survey should, at a minimum, show ground surface elevations on the specified grid and at all grade changes and also indicate the thickness of cover layers. The survey should adequately extend beyond the limits of work to properly overlap existing conditions. Locations and elevations of all groundwater monitoring wells and survey control points.
4. Recording Changes for Schematic Layouts:
    a. In some cases, on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items are shown schematically and are not intended to portray physical layout. For such cases, the final physical arrangement shall be determined by CONTRACTOR subject to acceptance by ENGINEER.
    b. Record on the Project record documents all revisions to schematics on the Drawings, including: piping schematics, ducting schematics, process and instrumentation diagrams, control and circuitry diagrams, electrical one-line diagrams, motor control center layouts, and other schematics when included in the Drawings. Show and indicate actual locations of equipment, lighting fixtures, in-place grounding system, and other pertinent data.
    c. When dimensioned plans and dimensioned sections or elevations on the Drawings show the Work schematically, indicate on the record documents, by dimensions accurate to within one inch in the field,

centerline location of items of Work such as conduit, piping, ducts, and similar items

1) Clearly identify each item of the Work by accurate notations such as “cast iron drain”, “rigid electrical conduit”, “copper waterline”, and similar descriptions.
2) Show by symbol or by note the vertical location of each item of the Work; for example, “embedded in slab”, “under slab”, “in ceiling plenum”, “exposed”, and similar designations. For piping not embedded, also indicate elevation dimension relative to Project elevation datum.
3) Descriptions shall be sufficiently detailed to be related to the Specifications.

d. ENGINEER may furnish written waiver of requirements relative to schematic layouts shown on plans, sections, and elevations when, in ENGINEER’s judgment, dimensioned layouts of Work shown schematically will serve no useful purpose. Do not rely on such waiver(s) being issued.

5. Supplemental Drawings:
   a. In some cases, drawings produced during construction by ENGINEER or CONTRACTOR supplement the Drawings and shall be included with Project record documents submitted by CONTRACTOR. Supplemental record drawings shall include drawings or sketches that are part of Change Orders, Work Change Directives, and Field Orders and that cannot be incorporated into the Drawings because of space limitations.
   b. Supplemental drawings submitted with record drawings shall be integrated with the Drawings and include necessary cross-references between drawings. Supplemental record drawings shall be on sheets the same size as the Drawings.
   c. When supplemental drawings developed by CONTRACTOR using computer-aided drafting/design (CADD) software are to be included in record drawings, submit electronic files for such drawings in accordance with Section 01 31 26, Electronic Communication Protocols, as part of record drawing submittal. Label such files, “Supplemental Record Drawings”, including with CONTRACTOR’s name, Project name, and Contract designation.

C. Specifications and Addenda:
   1. Mark each Specifications Section to record:
      a. Manufacturer, trade name, catalog number, and Supplier of each material and equipment item actually provided.
      b. Changes made by Addendum, Change Orders, Work Change Directives, and Field Orders.

1.4 ELECTRONIC FILES FURNISHED BY ENGINEER

A. CADD files of the Drawings will be furnished by ENGINEER upon the following conditions:

1. CONTRACTOR shall submit to ENGINEER a letter on CONTRACTOR letterhead requesting CADD files of the Drawings and indicating specific definition(s) or description(s) of how such files will be used, and specific description of benefits to DEPARTMENT (including credit proposal, if applicable) if the request is granted.
2. CONTRACTOR shall execute ENGINEER's standard agreement for release of electronic files and shall abide by the provisions of such agreement for release of electronic files.
3. Layering system incorporated in CADD files shall be maintained as transmitted by ENGINEER. CADD files transmitted by ENGINEER containing cross-referenced files shall not be bound by CONTRACTOR. Drawing cross-references and paths shall be maintained. If CONTRACTOR alters layers or cross-reference files, CONTRACTOR shall restore all layers and cross-references prior to submitting record documents to ENGINEER.
4. CONTRACTOR shall submit record drawings to ENGINEER in same CADD format that files were furnished to CONTRACTOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 89 29

GREEN REMEDIATION PRACTICES

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes practices related to reducing waste generation, energy use, emissions including greenhouse gases (GHGs), nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter and hazardous air pollutants (HAPs), water use, and land and ecosystem disturbance.

B. The CONTRACTOR shall implement green remediation practices in the performance of the requirements of the Work to maximize sustainability, reduce energy and water usage, promote carbon neutrality, promote materials reuse and recycling, and protect and preserve natural resources.

C. The CONTRACTOR shall utilize concepts and techniques in the DEPARTMENT Program Policy DER-31/Green Remediation, latest edition, as amended.

D. The CONTRACTOR shall implement practices and procedures to meet the environmental performance goals of the DEPARTMENT consistent with NYSDEC Program Policy DER-31/Green Remediation. In general, such practices and procedures shall include, but are not limited to:

1. Reducing direct and indirect Green House Gas (GHG) and other air emissions;

2. Increasing energy efficiency and minimizing use of non-renewable energy and resources;

3. Conserving and efficiently managing natural resources such as soil, water and habitat, while giving special attention to habitats for critical species (e.g., pollinators), and threatened or endangered species;

4. Minimizing waste, increasing recycling, increasing reuse of materials, furnishing materials from local sources, and minimizing the disposal transport distance using local facilities;

5. Maximizing the reuse of land and the recycling of on-Site materials; and,

6. Applying green remediation concepts, such as minimizing energy intensive operations, which, at a minimum:

   a. Protect public health and the environment;

   b. Address source removal and control;

   c. Address groundwater protection and restoration, and;

   d. Achieve the cleanup goals for the Site remediation.

E. Specifically, the CONTRACTOR shall include as part of the Work the following:

1. Beneficial reuse of materials that would otherwise be considered a waste (e.g., crushed clean concrete as base or fill).

2. Establish support zone and storage/laydown areas to minimize the disturbance of habitats and vegetated areas outside of the Work zone.

3. Include energy saving measures in all proposed structures, facilities, and operating systems to minimize electricity and water consumption/disposal, such as using variable speed drives for motors, incorporation of appropriately selected insulation and energy saving fixtures and lighting, or using extracted groundwater to provide heating and cooling through the use of heat exchangers.

4. Use of renewable energy and/or the purchase of renewable energy credits (RECs) or a combination of the two techniques to offset electrical use at the Site.

5. Reduce vehicle idling. All vehicles, both on and off road (including construction equipment) shall be shut off when not in use for more than five minutes, consistent with 6 NYCRR Part 217 Motor Vehicle Emissions, Subpart 217-3 Idling Prohibition For Heavy Duty Vehicles.

6. Use equipment and vehicles that reduce emissions, specifically from compression-ignition engines, and especially in urban areas.

7. Incorporate the use of blended bio-diesel fuel for all compression-ignition powered equipment.

8. Establish minimally invasive and well-designed traffic patterns for on-Site activities to reduce impacts to land and ecosystems.

9. Use native drought resistant species for re-vegetation during Site restoration.

F. CONTRACTOR shall comply with the DEPARTMENT's policy to utilize, as approved by the DEPARTMENT, recycled content materials, locally manufactured materials and low-emitting materials.

G. CONTRACTOR shall ensure that the requirements related to the goals of the DEPARTMENT and as defined in the Contract Documents, are implemented to the fullest extent.

H. SOLID WASTE MANAGEMENT

1. Develop and implement a waste management program in accordance with ASTM E1609 and as specified herein.

2. Collection: Implement a recycling/reuse program that includes separate collection of waste materials of the following types as appropriate to the Project waste and to the available recycling and reuse programs in the Project area:

a. Land clearing debris – re-use for habitat development to the extent practicable.

b. Spent Activated Carbon – send to regeneration facility for reuse rather than to a landfill for disposal.

c. Recovered LNAPL – separate from aqueous fraction and send to a recycling facility.

d. Shipping containers – use bulk sized containers (i.e., drums or totes) that can be recycled or re-used for chemical deliveries.

e. Masonry/Asphalt – sample and re-use or recycle these materials if uncontaminated.

1.2 DEFINITIONS:

A. Green Remediation Definitions

1. Renewable Energy: Energy from a source which is not depleted when used, such as solar, wind, geothermal, biomass and biogas.

2. Locally Manufactured: manufactured within 150 miles of the work.

3. Recovered Materials: Waste materials and by-products that have been recovered from solid waste streams, but does not include

materials and by-products generated from, and commonly reused within, an original manufacturing process.

4. Biobased Materials: As defined in the Farm Security and Rural Investment Act, for purposes of Federal procurement of biobased products, "biobased" means a "commercial or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials." Biobased materials also include fuels, chemicals, building materials, or electric power or heat produced from biomass as defined by The Biomass Research and Development Act of 2000.

5. Biobased Content: The amount of biobased carbon in the material or product as a percentage of weight (mass) of the total organic carbon in the material or product.

6. Recovered Materials: Waste materials and by-products that have been recovered from solid waste, but does not include materials and by-products generated from, and commonly reused within, an original manufacturing process.

1.3 REFERENCES

A. NYSDEC DER-31 – Green Remediation, New York State Department of Environmental Conservation, DEC Program Policy.

B. CP-49 – Climate Change and DEC Action, New York State Department of Environmental Conservation, DEC Policy.

C. NYSDEC Guide for Implementing GSR, New York State Department of Environmental Conservation https://dec.ny.gov/sites/default/files/2024-01/dergsrguide.pdf

D. In-Situ Chemical Oxidation (ISCO) GSR Fact Sheet, New York State Department of Environmental Conservation. https://dec.ny.gov/sites/default/files/2024-01/iscofactsheet.pdf

E. In-Situ Solidification/Stabilization (ISS) Fact Sheet, New York State Department of Environmental Conservation. https://dec.ny.gov/sites/default/files/2024-01/issfactsheet.pdf

F. United States Environmental Protection Agency (USEPA):

1. Consider USEPA Best Management Practices (BMPs) related to green remediation for the applicable program elements listed below:

a. Site investigation:
   i. https://clu-in.org/greenremediation/docs/GR_Fact_Sheet_SI&EM.pdf.

b. Excavation and surface restoration:
   i. https://clu-in.org/greenremediation/docs/GR_Quick_Ref_FS_exc_rest.pdf

c. Soil vapor extraction and air sparging technologies:
   i. https://clu-in.org/greenremediation/docs/GR_factsheet_SVE_AS_032410.pdf.

d. Pump and treat technologies:
   i. https://clu-in.org/greenremediation/docs/GR_Fact_Sheet_P&T_12-31-2009.pdf.

e. Bioremediation:
   i. https://clu-in.org/greenremediation/docs/GR_factsheet_biorem_32410.pdf.

f. In situ thermal technologies:
   i. https://clu-in.org/greenremediation/docs/GR_factsheet_IST.pdf.

g. Landfill cover systems and associated energy production:
   i. https://clu-in.org/greenremediation/docs/GR_factsheet_landfill_covers_and_energy.pdf.

h. Materials and waste management:
   i. https://clu-in.org/greenremediation/docs/GR%20BMP%20fact%20sheet_materials&waste.pdf.

i. Cleaner fuels and air emissions for site cleanups:
   i. https://clu-in.org/greenremediation/docs/GR_BMP_fact_sheet_cleaner_fuels_emissions.pdf

j. Integrating renewable energy:
i. https://clu-in.org/greenremediation/docs/GR_fact_sheet_renewable_energy.pdf

2. Consider USEPA climate resiliency fact sheets related to:

a. Sediment cleanups:
i. https://www.epa.gov/sites/default/files/2019-12/documents/cr_sediment_sites_fact_sheet_update.pdf.

b. Containment remedies:
i. https://www.epa.gov/sites/default/files/2019-12/documents/cr_containment_fact_sheet_2019_update.pdf.

c. Groundwater treatment remedies:
i. https://www.epa.gov/sites/default/files/2019-12/documents/cr_groundwater_systems_fact_sheet_2019_update.pdf.

G. ITRC Green and Sustainable Remediation, A Practical Framework:

https://itrcweb.org/gsr/

H. ITRC Sustainable Resilient Remediation:

1. https://srr-1.itrcweb.org/

I. ASTM – E2893-16e1: Standard Guide for Greener Cleanups:

1. https://www.astm.org/e2893-16e01.html.

J. Naval Facilities Engineering Command (NAVFAC), Department of the Navy Guidance on Green and Sustainable Remediation:

1. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://apps.dtic.mil/sti/tr/pdf/ADA564214.pdf

K. EPA Energy Smart Resources Guide:

1. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=190014.

L. Sustainable Remediation Forum (SURF):

1. https://www.sustainableremediation.org/.

M. US Army Corps of Engineers – Evaluation of Consideration and Incorporation of Green and Sustainable Remediation Practices in Army Environmental Remediation:

1. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://apps.dtic.mil/sti/tr/pdf/ADA566141.pdf

N. American Society of Civil Engineering – Adapting Infrastructure and Civil Engineering Practice to a Changing Climate:

1. https://ascelibrary.org/doi/pdf/10.1061/9780784479193

1.4 ENVIRONMENTAL GOALS

A. The CONTRACTOR, to the extent practicable, shall:

1. Minimize the amount of waste generated from the Site and maximize the use of recycling/reuse facilities for disposal of the waste to the extent practicable and as approved by the DEPARTMENT.

2. Maximize use of energy derived from renewable resources.

3. Minimize on- and off-Site fuel combustion.

4. Minimize use of water and maximize water recycling.

5. Minimize disturbance to land and ecosystems.

6. Minimize use of water for dust control and utilize sustainable dust control products.

7. Green Power Requirements

a. Utilize the New York State Green Power Program to determine which suppliers offer Green Power options by searching the Site zip code. Document the date of the Green Power Program search, as prices and offer details are subject to change: https://documents.dps.ny.gov/PTC/home

b. Based on what is available within the Site zip code (12832), review the options and minimum term offer details. Choose

the company, offer details, and pricing with renewable energy available for duration of the project. Arrange for Green Power sufficient to provide 100 percent of the Project total energy needs. https://cleanchoiceenergy.com/

c. Comply with renewable energy requirements in accordance with the Center for Resource Solutions (CRS) Green-e Standard for Electricity Products.

8. Long-Term Operation and Maintenance [Not Applicable to this Project]

a. Green Power: Provide service contract(s) for [xxxx] years with options for annual renewal thereafter.

i. Comply with the Center for Resource Solutions (CRS) Green-e Standard for Electricity Products for the duration of the Contract. Comply with requirements of the CRS Green-e Annual Verification Protocol.

ii. Immediately notify DEPARTMENT if electricity product fails to comply with Green-e certification criteria during Contract period.

b. On an annual basis, or at the end of the Contract period, submit:

i. A report that includes data on the resources used to generate the electricity consumed during the Contract or over the past year.

ii. Disclosure statement that lists the resources or fuel sources from which the electricity will be generated in the following year.

9. Use the Electronic Product Environmental Assessment Tool (EPEAT) to find electronic products with reduced impacts on the environment.

10. Resource Conservation and Green Materials

a. During construction activities and associated landscape alteration activities, green building strategies such as those outlined in the USGBC LEED should be implemented. LEED includes guidelines and recommendations for new construction, and existing building operations and management that fall under six categories important for reducing the environmental impact of facilities of all types:

i. Sustainable sites.

ii. Water efficiency.

iii. Energy and atmosphere.

iv. Materials and resources.

v. Indoor environmental quality.

vi. Innovation in operations.

11. As noted across the LEED categories, resources other than energy that can be conserved include water, raw materials for articles consumed, topsoil, paper for reports and landfill space. Conserving one resource typically conserves other resources and has other sustainability benefits. For example, recycling of construction and demolition debris or metal recovered at a munitions site will reduce consumption of landfill space and may also save energy and reduce air emissions by minimizing material transportation. Another example is the use of waste-to-energy plants for waste disposal rather than landfills in states where these plants are currently operating. This too reduces the consumption of landfill space and also results in energy production from the waste processing. Other examples of resource conservation include: treated water reuse or reinjection, the reuse of treated soil on-Site, and the beneficial reuse of sediments.

12. The use of "green" construction and project management tools and materials such as eco-friendly concrete or the use of native plants for Site restoration also advances the sustainability objectives of the Project. It is important to understand that green remediation implies minimizing the entire footprint of the remediation Project, which includes the environmental impacts of products and materials associated with the Project. For example, eco-friendly concrete refers to concrete that is produced with a certain percentage of cement replaced by recovered cementitious materials such as fly ash, slag or glass. This type of reduced cement concrete takes a problematic substance out of the waste stream and reduces the cumulative amount of energy associated with the production of concrete. The use of native plants for Site restoration helps to conserve water and eliminate the need for potentially harmful fertilizers and pesticides.

1.5 SUBMITTALS

A. Form "A" - Summary of Green Remediation Metrics:

1. Consistent with NYSDEC Program Policy DER-31/Green Remediation requirements, the CONTRACTOR shall complete *Form A - Summary of Green Remediation Metrics*, in its entirety and sign the certification as to its accuracy.

2. The CONTRACTOR shall submit properly completed Form A to the DEPARTMENT along with each CONTRACTOR's Application for Payment.

3. Consistent with NYSDEC's Part 248 Annual Emission Reporting requirements, CONTRACTOR is required to report annual emission for vehicles used under the Contract reporting period (even those exempt from Best Available Retrofit Technology [BART] requirements) on both the Annual Report and Vehicle Inventory forms. These forms are not intended to be cumulative lists of a Prime Contractor's fleet over time and should only reflect vehicles used during the Contract or Reporting period. Reporting forms and requirements can be accessed at https://extapps.dec.ny.gov/fs/docs/spreadsheets/248annrptfrm.xlsx

4. Submit product data for all products and equipment specified within this specification and other Project specifications. As appropriate, include data presenting energy consumption ratings, air discharge ratings, bio-content analysis, and other sustainability measures indicated in this section.

B. A Green Remediation Plan submitted as a component of the CONTRACTOR's Work Plan (as required by Standard Specifications Section 01 33 00 – Submittal Procedures) that includes a description of the green remediation elements incorporated into the CONTRACTOR's approach whether required by the Contract Documents or independently proposed by the CONTRACTOR, including but not limited to the following:

1. Emission reduction control and policies which shall include a plan for clean diesel practices. At a minimum the plan must incorporate the first two bullets below.

    a. Reduce unnecessary idling through the use of auxiliary power units, electric equipment, and strict enforcement of idling limits.
    b. Practice good engine maintenance to meet original standards, and properly train operators to run equipment efficiently.
    c. Use verified diesel emission control technology ("VDEC"), including verified diesel particulate filters ("DPFs") or diesel oxidation catalysts ("DOCs").

2. Transportation minimization and green transportation evaluation.

3. Recycling, reuse and waste minimization.

4. Use of local materials and facilities.

5. Approach to tracking emissions reductions and other green remediation metrics.

6. Justification for any proposed approach that does not meet the minimum green remediation requirements and/or preferences included in the Contract Documents.

1.6 QUALITY ASSURANCE

A. Environmental Project Management and Coordination:

1. CONTRACTOR shall designate an employee who shall be responsible for implementation of green remediation elements; coordinate work of subcontractors and suppliers; instruct workers relating to environmental issues; ensure that green remediation metrics are collected, recorded on *Form A - Summary of Green Remediation Metrics* and submitted with the CONTRACTOR's Applications for Payment, and oversee Project environmental goals.

PART 2 – PRODUCTS

A. Evaluate the products and materials needed for the Project and identify "sustainable" materials to be used. Focused effort shall be directed to identify materials and products that are needed in large quantities that will have the largest impact on the Project. For example, projects requiring a large amount of crushed stone for temporary roadway construction shall be evaluated for sustainable solutions (e.g., recycled crushed concrete and local sources).

B. Materials with a high carbon footprint (such as concrete, because of the manufacture of the Portland cement in the material) shall also be evaluated to identify more sustainable solutions. Green concrete shall be considered for such situations.

C. CONTRACTOR shall use environmentally preferable products, including, but not limited to:

1. Compact Fluorescent Lights (CFL) or LED.

2. Reused PVC pipe.

3. Environmentally friendly electronics (e.g., ENERGY STAR).

4. Items composed of recovered materials such as recycled asphalt, concrete and rubble; recycled wood including mulch products; recycled metals including steel, copper, and brass; and items/products composed of recycled cardboard.

5. Items constructed using renewable resources such as biomass energy (such as ethanol), hydropower, geothermal power, wind energy, and solar energy.

6. Bio-based cleaning products.

7. Bio-based dust control agents and dust suppressants: Products formulated to reduce or eliminate the spread of dust associated with gravel roads, dirt parking lots, open excavations, stockpiled materials or similar sources of dust. Provide minimum 85% biobased content.

8. Geotextile fabrics/tarps made of recycled or recovered material.

9. Hydraulic fluids that are biodegradable for operating hydraulic equipment such as excavators, bulldozers, and drill rigs.

10. Phosphate-free detergents instead of organic solvents or acids to decontaminate equipment not used directly for sample collection.

11. Substitute temporary silt fences with biodegradable erosion controls such as tubular devices filled with organic materials.

12. Products must be certified environmentally clean before delivery to the Project Site. ENGINEER'S approval shall be required for all products.

PART 3 - EXECUTION

A. The CONTRACTOR shall:

1. General Site Requirements:

a. Set up an on-Site recycling program for CONTRACTOR-generated wastes.

b. Provide all required documentation in electronic format, eliminating the need for printing, inks, paper, and

mail/delivery impacts, unless a printed submittal is specifically requested by the ENGINEER.

c. Sequence work to minimize double-handling (e.g., direct stockpiling of waste, direct placement of backfill, etc.) of materials.

d. Provide locally made materials that are composed of recovered materials to the maximum amount practicable.

e. Provide materials that generate the least amount of pollution during mining, manufacturing, transport, installation, use and disposal.

f. Maintain office trailer heating and cooling systems at efficient set points. Utilize renewable energy (i.e., solar) for trailer power and lighting. Utilize programmable or smart devices to efficiently control lights and HVAC equipment.

g. If alternatives are available, do not use materials that contain ozone-depleting chemicals (e.g., CFCs or HCFCs) and that emit potentially harmful volatile organic compounds (VOCs).

h. Employ construction practices that minimize the generation of excessive dust and combustion by-products.

i. CONTRACTOR shall not use or cause to be used scarce, irreplaceable and endangered resources.

j. Reduce impact to land and ecosystems.

k. Contain and reuse water on-Site, to the extent practicable, as approved by the DEPARTMENT.

l. Ensure temporary facilities (e.g., field offices and sanitary facilities) and permanent structures (e.g., treatment plants and offices) are thoroughly and properly insulated.

m. Design structures to take full advantage of passive solar heating and cooling.

n. Chip all cleared woody vegetation not designated for off-Site disposal. Stage onsite for reuse as mulch.

o. Identify on-Site or nearby sources of backfill material such as crushed stone.

p. Incorporate green requirements into cleanup and supporting service procurements.

q. Choose service providers with local offices, to minimize the distance of worker commutes and machinery transport.

r. Choose equipment and product vendors with nearby production or distribution centers, to minimize delivery-related fuel use.

2. Equipment Requirements:

a. Minimize equipment engine idling.

b. Utilize properly sized equipment and minimize the number of mobilizations needed to deliver and remove heavy equipment. Utilize an automated coupling system for equipment, rather than a manual pin-on system for changing excavator attachments, to reduce machine operating time.

c. Use machine models capable of performing assorted tasks, whenever feasible, to avoid field deployment of multiple types of machines. For instance, a single excavator can be equipped with a bucket for digging, a breaker for demolition or a grapple for land clearing.

d. Incorporate electronic intelligence systems to improve productivity within and among field machines. “Smart” systems enable work managers to remotely monitor field operations via machine-to-machine communications and identify changes to be made by machinery operators accordingly.

e. Use machines with variable-speed control technology, which automatically reduces engine speed during low workload requirements, or with pump torque control, which allows a machine operator to change a machine’s hydraulic pump torque.

f. Use machines with repowered or newer engines that are more fuel efficient.

g. Implement an engine idle reduction plan to avoid fuel consumption when machinery is not actively engaged. Options include manual shutdown after a specified time such as five minutes, engagement of automatic shutdown devices, or use of auxiliary power units to heat or cool machinery cabs.

h. Minimize emissions during Site work (e.g., replace or retrofit older engines or use newer efficient models or use low-sulfur fuel).

i. Deploy direct-push technology (DPT) instead of rotary drilling rigs whenever feasible for additional subsurface sampling or for monitoring well installation. DPT can reduce drilling duration by as much as 50-60% while minimizing generation of drill cuttings or the need to dispose of drilling fluids.

j. Employ transportation methods, such as rail, which have demonstrated low emissions.

k. Choose trucking methods and fleets that use vehicles equipped with fuel efficiency options such as tractor trailer skirts and air tabs, as well as clean diesel technology.

l. Practice engine maintenance in accordance with manufacturers' recommendations and properly train operators to run equipment efficiently.

m. Perform all required equipment inspections to reduce the potential for breakdowns, hydraulic fluid spills, and other negative impacts due to lack of inspections.

n. Use 2007 or newer on-road diesel trucks or retrofitted diesel trucks with equivalent emissions reductions that get better fuel mileage, reduce air toxics and use low sulfur fuel or alternative fuel.

o. Identify on-Site or nearby sources of topsoil, to avoid long-distance transport of clean soil. Options may include on-Site manufacturing of topsoil through use of locally sourced industrial byproducts such as compost or silica-based spent foundry sands.

p. Use solar power packs to recharge batteries in small electronic devices such as small hand tools, cell phones, laptop computers and sensors.

q. Install a ground-mounted PV array, wind turbine or mechanical windmill to power equipment needed for Site monitoring or maintenance. Properly scale and configure such equipment to provide power to other remediation equipment if possible.

r. Use high efficiency variable speed pumps for dewatering and groundwater extraction and treatment plant operations.

s. Optimize pump-and-treat and dewatering systems using properly sized equipment to minimize excess extraction or energy usage.

3. Restoration and Revegetation Requirements:

a. Revegetate backfilled areas as quickly as possible through use of a diverse mix of native grasses, shrubs, forbs and trees supporting many habitat types.

b. Include plant species that promote colonization of bees and other pollinators.

c. Seed or install native rather than non-native species, which typically increases the rate of plant survival and minimizes the need for irrigation and soil or plant inputs.

d. Choose grass species requiring little or no mowing.

e. Utilize wood chips generated during site clearing for mulch.

f. Substitute chemical fertilizers, herbicides or pesticides with non-synthetic inputs, integrated pest management methods, and soil solarizing techniques during vegetation planting, transplanting or ongoing maintenance.

g. Retain native, noninvasive plants for later replanting.

Table 00030-1: Greener Cleanup BMPs

The CONTRACTOR shall implement the following. The following is not intended to be all-inclusive. Refer to specifications for additional project requirements.

Green Energy Requirements	Solar-powered construction lights
	Solar-power supplied construction trailer for ancillary power, battery charging and small equipment
	Solar-powered dewatering pumps (Example: RPS Solar Pumps). Select equipment with dual power option to run on alternate (traditional) power source when solar is not sufficient
	Maximize the use of other solar-powered and battery-powered equipment
Required Gree	Source backfill, especially topsoil, from a local suppliers
	Furnish products (e.g., silt fence, silt logs) with recycled and biobased content

	Use bio-fuels for equipment and vehicles
	Identify and implement beneficial use for clearing and grubbing debris
	Store treated dewatering effluent and use for dust suppression
	Limit extent/control of on-site traffic to reduce disturbance area
	Furnish storm water collection/storage system for watering and maintenance of plantings
	Use local contractors for planting maintenance and source water locally for plant upkeep
	Install commercially available low cost bees nests in the planting areas to encourage pollinators (keep away from commonly trafficked areas)
	Use local facilities for waste disposal, to the extent possible
	Minimize idling of equipment and vehicles

++ END OF SECTION ++

Form A
Summary of Green Remediation Metrics

Site Name: _____ Site Code: _____ Operable Unit: _____
Address: _____ City: _____
State: _____ Zip: _____ County: _____

Reporting Period
Contract Period From: _____To: _____
Reporting Period From: _____To: _____ Is this a Final Report? Yes ☐ No ☐

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____ Company Code: _____
Contract No. _____

Materials & Waste Generation: Quantify the materials used or consumed and the management of waste generated on-site.

	Current Reporting Period (Include Units)	Total to Date (Include Units)
Materials Brought to the Site		
• Topsoil		
• Fill		
• Silt Fence		
• Silt Logs		
• Aggregate Base Course		
• Geotextile		
• Solidification Additives		
• Activated carbon		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		
Total Wastes Generated On-Site		
• Remedy Generated Waste		
• Contractor Generated Waste		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		
• Other:		

Provide a description of any implemented waste reduction programs appropriate for this project in the space provided on the certification page.

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Recycled and Bio-Based Content in Imported Products and Materials: Quantify all materials and products imported to the site, including cost of materials/dollar values. Provide total percentages of recycled and bio-based of products and materials.

List Products and Materials Below	Total $ Value Provided	Total Percent of Recycled Content	Total Percent of Bio-based Content

Provide additional descriptions, as necessary, in the space provided on certification page.

Solid Waste Disposal and Diversion: Quantify all solid wastes generated, and indicate whether material was disposed or diverted for recycling or reuse.

Solid Waste Material	Date	Disposed or Diverted	Volume (Ton or CY)	Disposal/Recycling Facility Name	Comments (if not diverted, state why)
TSCA Contaminated Sediment					
Non-TSCA Contaminated Sediment					
Cleared Vegetation					
Spent Granular Activated Carbon					
Monitoring Well Removal Debris					
Other:					
Other:					
Other:					
Other:					
Other:					
Other:					

Provide descriptions in the space provided on the certification page of all wastes that were redirected for recycling or reuse. Indicate full names and addresses of facilities.

Energy Usage: Quantify the amount of energy used on-site and portion of that voluntarily derived from renewable energy sources.

	Current Reporting Period (KWh)	Total to Date (KWh)
Total electricity usage		
Of that total amount, provide quantity:		
• Derived from renewable source (i.e., solar, wind)		
• Other:		

Provide descriptions in the space provided on the certification page of all reported energy use reduction programs appropriate to this project, including use of electricity derived from renewable sources.

Water Usage: Quantify the volume of water used on-site from difference sources.

	Current Reporting Period (Gallons)	Total to Date (Gallons)
Total quantity of water used on-site		
Of that total amount, provide the quantity obtained from:		
• Public potable water supply		
• Surface water		
• On-site treated groundwater		
• Reclaimed treated water		
• Collected or diverted storm water		
• Re-Injected groundwater		
• Other:		
• Other:		

Provide descriptions in the space provided on the certification page of any reported water use reduction programs applied. Please note if reused/injected groundwater is pre-treated.

Emissions: Quantify the distance traveled for delivery of supplies and removal of waste.

	Current Reporting Period (Miles)	Total to Date (Miles)
Off-site mobile fuel combustion		
Other:		

Provide descriptions in the space provided on the certification page of practices such as use of local vendors within 150 miles of the site and on-site stationary fuel use reduction programs.

Quantify the number of hours that diesel and other equipment with the potential to emit hazardous air pollutants (HAPs) or greenhouse gas (GHG) emissions was operated on-site.

	Current Reporting Period (Hours)	Total to Date (Hours)
On-site diesel excavation/construction equipment usage		
Other on-site processes generating emissions		
Other:		

Quantify the VOC emissions from active remediation systems on-site.

	Current Reporting Period (lbs VOCs emitted)	Total to Date (lbs VOCs emitted)
Operating soil remediation equipment		
Operating groundwater remediation equipment		
Other:		

Provide descriptions in the space provided on the certification page of the type of equipment used, rating, emission control devices used and other means to reduce emissions.

Land and Ecosystem: Quantify the amount of land and/or ecosystems disturbed by construction and the area of land and/or ecosystems restored to a natural condition.

	Current Reporting Period (Acres)	Total to Date (Acres)
Total land area disturbed		
Total land area restored		
Increase in area for storm water infiltration (vs pre-disturbed conditions)		
Increase in area of native species plantings (vs pre-disturbed conditions)		
Other:		

Quantify the amount of land and/or ecosystems remediated.

	Current Reporting Period (Acres)	Total to Date (Acres)
Total area of land impacted by contamination		
Total area of land remediated to unrestricted use		
Total area of land remediated to other future site use		

Additional Comments on Green Remediation Programs Implemented: *Provide descriptions in the space provided of other green remediation practices performed during the project.*

Descriptions of green remediation programs reported above (Attach additional sheet if needed)
Materials and Products Imported:
Waste Generation:

Descriptions of green remediation programs reported above (Attach additional sheet if needed)
Recycled and Bio-Based Content in Imported Products and Materials:
Solid Waste Disposal and Diversion:
Energy Use:
Water Use:
Emissions:
Land and Ecosystem:
Other:

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** **Contractor**

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SECTION 01 92 13

WINTER SHUTDOWN

PART 1 – GENERAL

1.1 SCOPE

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to prepare, protect, and maintain the site during a winter shutdown from December 15, 2026, until March 15, 2027, and from December 15, 2027, until March 15, 2028. The winter shutdown shall not be construed as the basis for an extension in contract time. No written notification will be required for the specified dates above to be effective.

B. The DEPARTMENT reserves the right to adjust the start date and end date of the Winter Shutdownas site conditions may require. The DEPARTMENT shall provide written notice to the CONTRACTOR of a date adjustment no less than seven calendar days before the revised date.

C. The CONTRACTOR may request, in writing, that the start date be delayed, or the end date be advanced provided that the site conditions will allow effective work to be prosecuted. The CONTRACTOR shall provide seven days written notice to the ENGINEER and DEPARTMENT to delay the start date or fourteen days written notice to advance the end date of the Winter Shutdown. The CONTRACTOR may not advance the end date beyond March 15, 2027, and March15, 2028, provided site conditions allow for effective work to be prosecuted, as determined by theENGINEER.

D. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to prepare, protect, and maintain the site and completed work during a winter shutdown.

E. The winter shutdown shall not be construed as the basis for an extension in Contract Time.

F. The CONTRACTOR shall comply with all applicable specification sections in preparing the Site for winter shutdown and securing the integrity of the constructed work.

G. All site damages sustained during winter shutdown, in accordance with these specifications, shall be repaired at no additional cost to the DEPARTMENT.

H. The CONTRACTOR shall perform a comprehensive Site inspection in the presence of theENGINEER and DEPARTMENT prior to the agreed start of the winter shutdown to confirm that appropriate protections and controls have been installed in accordance with the CONTRACTOR's approved Winter Shutdown Plan. The CONTRACTOR shall notify the DEPARTMENT in writingthat the Winter Shutdown Plan protections and controls including those detailed in the Winter Erosion and Sediment Control Plan, have

been installed and are ready to be inspected.

I. The CONTRACTOR shall be required to perform site security during winter shutdown in accordance with Section 01 57 33.

J. The CONTRACTOR shall be required to maintain necessary temporary facilities in accordance with Section 01 51 05. At a minimum, the CONTRACTOR shall maintain the field trailers and telephone service. Electrical power and lighting shall be provided, as required, to facilitate site inspections and perform any required work during winter shutdown.

H. The CONTRACTOR shall install and maintain winter erosion and sediment controls to augment/supplement those already in place to protect the completed work and the Site and prevent sedimentation during the wet winter and early spring weather. The controls shall be in accordance with Section 01 57 13 and/or as identified and described in the CONTRACTOR's Winter Erosion and Sediment Control Plan.

I. Payments for Site Services and Health and Safety shall be suspended during the period of the winter shutdown.

1.2 QUALITY ASSURANCE

A. Reference Standards: Comply with applicable provisions and recommendations of the following except where otherwise shown or specified.

1. SPDES – State Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction Activities (Permit Number GP-0-20-001).

2. New York Standards and Specifications for Erosion and Sediment Control, August 2005 by the NYS Soil and Water Conservation Committee.

1.3 SUBMITTALS

A. The CONTRACTOR shall submit a Winter Shutdown Plan, as part of the Construction Work Plan (Plan of Operations) as specified in Section III – Bidding Information and Requirements, Article 5 – Required Bid Submittals, Paragraph b) that shall include:

1. Description of remaining manpower, temporary facilities including utilities and equipment to be left on-site during the winter shutdown.

2. Procedures for performance of site inspections.

3. Schedule for inspections to be performed during winter shutdown.

4. A sample inspection form with accompanying Site sketch to be used during winter shutdown inspections.

B. The Winter Shutdown Plan shall include:

1. Description of how structural or building instability items will be handled or secured before and during the winter shutdown period;

2. Description of securing or closure of areas of open contamination of soils and site items for theprotection of human health and safety over the winter shutdown period.

3. Closure and protection of site utilities over the winter shutdown period.

4. Description of how dewatering and protection of excavated areas will be handled during the shutdown period;

5. Description of the protection of roadways and utilities exposed prior to the winter shutdown;

6. Describe maintenance activities to be performed during winter shutdown and provide aschedule to complete them.

7. Provision in the plan for snow plowing in case of access is required to the facility for general or security inspections or to secure components of the facility during the winter shutdown period.

8. A presentation of the sequence of work such that the capture and treatment of construction water during the shutdown is not required.

C. Completed Site inspection forms with photographs, and Site sketches noting the condition of the Site and the locations of required deficiencies or repairs. Forms with photographs and sketches shall be submitted to the ENGINEER within 10 days of the completed inspection.

D. Notification of erosion or sedimentation evidence that indicates the migration of contaminated materialshall be reported to the ENGINEER immediately for assessment.

PART 2 – PRODUCTS

2.1 GENERAL

A. Products/materials shall be as specified throughout.

PART 3 – EXECUTION

3.1 SUSPENSION OF DEMOLITION WORK IN PROCESS

A. All standing structures designated for demolition shall be assessed by a structural engineer priorto the winter shutdown.

B. Provide closure and protection of all public utilities exposed resulting from the facility demolitionprocess.

C. Security inspections and reporting during the winter shutdown period in accordance with therequirements of Section 01 57 33.

3.2 RESTRICTIONS

A. No open excavations shall be allowed to remain over the winter shutdown. Excavations shall be permanently backfilled prior to the winter shutdown. All disturbed areas shall be graded to drain and stabilized.

B. Construction water management shall not include active measures (i.e. pumping, treatment) duringwinter shutdown. The following controls shall be in place:

1. Control measures shall be installed to prevent stormwater runoff from contaminated areasflowing into clean areas.

2. Contaminated soil surfaces shall be covered and stabilized to prevent the direct contact ofstormwater runoff with contaminated soil.

C. Exposed contaminated soil surfaces shall be covered in a manner that minimizes contact of stormwater with contamination and stabilized in a manner that protects against erosion. Perimetersediment control measures shall be installed to prevent the migration of sediment from contaminated areas to clean areas, of sediment to areas outside the limit of work.

D. Contaminated soil surface shall not be present onsite during the Winter Shutdown.

3.3 INSPECTION

A. The CONTRACTOR shall conduct inspections as specified in Section 01 57 13.

3.4 REPAIRS

A. The CONTRACTOR shall check within the limit of work for damage during inspections and complete repairs as necessary. This is especially important during, heavy snowfalls, high wind events, thaws, and prior to spring rain events.

B. Required and completed repairs shall be documented on the inspection forms, noted on the inspection Site sketch, and photographed.

C. Notify the ENGINEER/DEPARTMENT immediately if the cover/stabilization materials are observed to be eroded to a degree that risks the migration of contaminated soil (sediment) from contaminated areas into clean areas, outside the limit of work. The ENGINEER will assess the risk from the CONTRACTOR’s photographic documentation and may require the CONTRACTOR torepair within 48 hours.

D. Noncritical repairs shall be completed within 7 calendar days.

3.5 ON-SITE STORED MATERIALS

A. All stockpiled materials shall be suitably protected in accordance with manufacturer's recommendations in order to maintain the integrity of the materials during winter shutdown and the following season after the winter shutdown period.

SECTION XI

Supplementary Specifications

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SECTION 01 11 13

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. This Section includes the following Articles:

Article	Title
1.1	Section Includes
1.2	Location and Description of Work
1.3	Other Construction Contracts
1.4	Work by Others
1.5	Work by DEPARTMENT
1.6	Sequence and Progress of Work
1.7	CONTRACTOR's Use of Site
1.8	Easements and Rights-of-Way
1.9	Notices to Owners and Authorities of Properties Adjacent to the Work
1.10	Salvage of Materials and Equipment
1.11	Partial Utilization by DEPARTMENT

1.2 LOCATION AND DESCRIPTION OF WORK

A. The Work spans between the Former Utica City Dump Site, located east of Leland Ave. along Incinerator Road, between the Erie Canal to the north and the Mohawk River to the east and south and the Upland Disposal Site 4-26 (UDS) located approximately 4.5 miles east of the site along the canal.

B. The Work to be performed under this Contract includes, but is not limited to, constructing the Work described below and all related appurtenances.
- Dump closure according to the New York State Department of Environmental Conservation (NYSDEC) Explanation of Significant Differences (ESD) dated (April 19, 2025) to prevent exposure to surface soils and to reduce the generation of landfill leachate;
- Construction water management
- Demolition and disposal of the onsite incinerator stack and surrounding structure(s);
- Selected waste excavation and relocation to reduce the dump footprint;
- Sanitary manholes shall be raised or lowered as required;
- During construction the contractor is responsible for the protection and support of all under and above ground utilities affected by the contractor's work;

- The contractor shall contact "dig safely NY" within 72 hours prior to the commencement of the work. The contractor shall verify the location of all utilities and if necessary, notify the affected utility departments one week prior to digging in any portion of the site. Dig safely New York phone number: 1-800-962-7962 or 811. Website: www.digsafelynewyork.com;

- The contractor shall coordinate with the appropriate utility companies for the temporary de-energizing, or interruption of service, removal, relocation, replacement of any utilities poles, guy wires, underground utilities and/or overhead wires within the limits of work, or that could otherwise interfere with the work;
- Installation of (2) permanent Loading Platforms, one located at the Former Utica Dump Site and the other at the UDS area;
- Removal and handling of UDS Material at the UDS area;
  Transportation of UDS material from the UDS area to the Former Utica Dump;
- Unloading, management and handling of UDS material at the Former Utica Dump Site;
- Installation of the evapotranspiration cover (ET Cover);
- Restoration / Construction of wetlands;
- Installation of a perimeter access road;
- Installation of fencing to prevent trespassing;
- Implementation of a monitoring and maintenance program.

C. Contracting Method: The Project shall be constructed under one prime Contract.

D. Hazardous Environmental Conditions:
   1. A Hazardous Environmental Condition, will affect the Work.

1.3 OTHER CONSTRUCTION CONTRACTS

A. None.

1.4 WORK BY OTHERS

A. None.

1.5 WORK BY DEPARTMENT

A. None.

1.6 SEQUENCE AND PROGRESS OF WORK

A. Sequencing:
   1. Incorporate sequencing of the Work into the Progress Schedule.

2. Sequencing Requirements:
    a. Site will be secured with temporary fencing prior to any construction activities.
    b. New permanent fencing shall be installed as shown or as directed by ENGINEER to secure the site.

1.7 CONTRACTOR'S USE OF SITE

A. CONTRACTOR's use of the Site shall be confined to the limit of work shown unless otherwise shown or specified.

B. Move stored materials and equipment that interfere with operations of DEPARTMENT, other contractors, and others performing work for DEPARTMENT.

C. Limits on CONTRACTOR's use of the Site are:
    1. As indicated in Section 01 14 19, Use of Site.
    2. Do not use the Site for operations other than those required for the Project.

1.8 EASEMENTS AND RIGHTS-OF-WAY

A. General:
    1. Easements and rights-of-way required for the permanent improvements included in the Work will be provided by DEPARTMENT in accordance with the General Conditions and Supplementary Conditions.
    2. Confine construction operations within DEPARTMENT's property, public rights-of-way, easements obtained by DEPARTMENT, and limits shown, and property for which CONTRACTOR has made arrangements directly with property owner(s).
    3. Use care in placing construction tools, equipment, excavated materials, and materials and equipment to be incorporated into the Work to avoid damaging property and interfering with traffic.
    4. Do not enter private property outside the construction limits without permission from the owner of the property.

B. National Grid Easement:

    1. Prior to any work to be performed, within the National Grid easement, the Contractor shall employ a third party Electrical Qualified Spotter/Observer.

        a. Qualifications and/or experience records (resume) of the proposed individual shall be submitted to NMPC prior to execution of agreement.

    2. Electrically Qualified Spotter /Observer

        a. The Electrically Qualified Observer must have a minimum of five (5) years of experience in the related fields (line worker is an example of an

individual that meets the qualification). This individual (Electrically Qualified Observer) must be on-site whenever work is conducted in proximity to National Grid assets and/or on electrical right of ways. The electrically qualified observer must have a working knowledge of power generation, transmission and distribution standards and shall also be capable of identifying nominal voltages, energized components, minimum approach distances, and proper safe work practices while crew members are working near energized lines. The observer is responsible for ensuring that clearances are maintained, appropriate protections including, but not limited to, tagging/permitting, grounding and appropriate PPE is used, and effective cover-up is installed.

C. On Private Property:
   1. General limits of DEPARTMENT-furnished easements are shown on the Contract Drawings.

1.9 NOTICES TO OWNERS AND AUTHORITIES OF PROPERTIES ADJACENT TO THE WORK

A. Notify ENGINEER 5 calendar days in advance of Work when the prosecution of the Work may affect their property, facilities, or use of property. ENGINEER in turn will notify adjacent owners and utility owners.

B. When it is necessary to temporarily obstruct access to property, or when utility service connection will be interrupted, provide notices sufficiently in advance to enable affected persons to provide for their needs. Such notifications shall comply with Laws and Regulations and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.

C. Notify utility owners and other concerned entities not less than 48-hours prior to cutting or closing streets or other traffic areas or excavating near Underground Facilities or exposed utilities.

1.10 SALVAGE OF MATERIALS AND EQUIPMENT

A. Existing materials and equipment removed and not shown or specified to be reused in the Work will become CONTRACTOR's property, except the following items that shall remain DEPARTMENT's property:
   1. None.

B. Existing materials and equipment removed by CONTRACTOR shall not be reused in the Work, except for the following:
   1. None.

C. Removal, Storage, Handling, Reinstallation:

1. Carefully remove in manner to prevent damage all materials and equipment shown or indicated to be salvaged and reused or to remain property of DEPARTMENT.
2. Store and protect salvaged items shown or indicated to be used in the Work.
3. Replace in-kind or with new items those items of materials and equipment damaged during removal, storage, or handling through CONTRACTOR's actions, negligence, or improper procedures.

D. CONTRACTOR may furnish and install new items, with ENGINEER's approval, instead of those specified or indicated to be salvaged and reused, in which case such removed items will become CONTRACTOR's property.

1.11 PARTIAL UTILIZATION BY DEPARTMENT

A. Prior to Substantial Completion of the entire Work under the Contract, substantially complete the Work as follows:
   1. None.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 14 19

USE OF SITE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for use of the Site during the Project, and includes requirements for use of existing facilities, as applicable.
   2. CONTRACTOR shall provide all labor, materials, equipment, tools, and incidentals shown, specified, and required to comply with restrictions on CONTRACTOR's use of the Site and other areas.
   3. Comply with requirements of the General Conditions, as may be modified by the Supplementary Conditions, regarding the CONTRACTOR's use of the Site and other areas.

1.2 USE OF PREMISES

A. Limit use of premises at the Site to work areas shown or indicated on the Contract Drawings. Do not disturb portions of the Site beyond areas of the Work.
   1. Access to Site, Access Roads, and Parking Areas: Section 01 55 13, Access Roads and Parking Areas.

B. Use of Existing Buildings and Structures: Obtain DEPARTMENT's written permission for each proposed use of existing buildings and structures.

C. Promptly repair damage to premises caused by construction operations. Upon completion of the Work, restore premises to specified condition; if condition is not specified, restore to pre-construction condition or better.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01 57 23

CONSTRUCTION WATER MANAGEMENT

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the development and implementation of an acceptable Construction Water Management Plan detailing the handling, storage, treatment (if necessary), and disposal of all construction water and associated sludge generated during construction in accordance with all applicable local, state, and federal regulations.

B. The CONTRACTOR is to obtain, and operate in accordance with, all required local, state, and federal permits required to implement the proposed Construction Water Management Plan.

C. Provide all labor, materials, and equipment required for handling, testing, storage, treatment, and disposal of construction water in accordance with the approved Construction Water Management Plan.

D. Perform all specified and necessary sampling and analyses to ensure compliance with required permits and applicable laws and regulations.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of all applicable federal, state, and local codes, ordinances, regulations, statutes, standards and specifications, except where more stringent requirements have been specified herein.

1.3 RELATED WORK SPECIFIED ELSEWARE

A. 32 20 00 Earth Moving

B. 31 23 01 Structural Excavation and Fill

C. 31 25 00 Erosion and Sediment Control

1.4 SUBMITTALS

A. The following items shall be submitted:
   1. Construction Water Management Plan
   2. Shop drawings and test results used in design of the method of handling construction water.

3. Construction Water disposal records and documentation

1.5 DEFINITIONS

A. Construction water is defined as meaning all water removed from the excavation that has come into contact with waste fill or visually contaminated soil or sediment. Also included are liquids and sludge generated as the result of equipment or personal decontamination operations.

PART 2 – PRODUCTS

2.1 GENERAL

A. Construction Water Management Plan
   1. The CONTRACTOR shall submit his plan for handling construction water. The plan shall include, but not be limited to, the CONTRACTOR's proposed method of handling, sampling and analyses, methods for minimizing the volume of construction water and associated sludges, storage (if necessary), treatment (if necessary) and disposal of construction water generated during construction.
   2. Acceptable methods of handling construction water include, but are not limited to, the following:
      a. Collection, on-site treatment, and discharge in accordance with all applicable laws, rules, regulations, orders and requirements including, but not limited to, a National Pollutant Discharge Elimination System (NPDES) permit.
      b. Collection, transport, off-site treatment, and disposal at a Publicly Owned Treatment Works (POTW) or licensed waste disposal facility in accordance with all applicable local, state and federal laws, rules, regulations, and orders.
      c. Collection, temporary storage, sampling and analyses, treatment (if necessary), record and measurement of flow, and on-site discharge (via the existing sanitary sewer) to the Oneida County POTW.
         a. Requirements
            i. Site Remediation Permit
               1. Send a letter to Chris Osier, Oneida County Department of Water Quality & Water Pollution Control PO Box 442 Utica, NY 13503 (cosier@oneidacountyny.gov), Phone Number 315-798-5656, requesting a Site Remediation Permit. Include the Site Address, Owner’s name and address and the CONTRACTORs name and address.
               2. Provide with the letter any analytical data related to the water to be discharged and the anticipated flow rate.

3. As a requirement of the permit, the water may need to be treated with bag filters for grit and carbon if there are any elevated contaminates.
4. All construction water discharged to the Oneida County POTW shall meet the requirements set forth in Oneida County Sewer Use Ordinance Article V Discharge Restrictions
5. All construction water discharged to the Oneida County POTW shall meet their grit removal requirements. This will involve the use of a grit filtration system.
6. The flow restriction for the POTW North Utica Interceptor trunk sewer system which crosses the Utica Dump Site is 100 gallons per minute.

3. Acceptable methods of handling sludge generated by the CONTRACTOR's management of construction water include, but are not limited to:
   a. Collection, placement beneath the ET Cover or transport, off-site treatment and disposal in accordance with all applicable Local, State and Federal laws, rules, regulations and orders. No additional payment shall be made to the CONTRACTOR for material transported, treated or disposed of off-site.

PART 3 – EXECUTION

3.1 GENERAL

A. It shall be the responsibility of the CONTRACTOR to investigate and comply with all applicable federal, state, and local laws and regulations governing the handling, storage and disposal of construction water and associated sludge. All construction water and associated sludge shall be disposed of in a manner which meets applicable permit requirements, laws, and regulations.

B. The CONTRACTOR shall obtain all required permits and manifests required for the handling, storage, transport, treatment and disposal of construction water and associated sludge.

C. All sampling and analyses of liquids and/or solids required for discharge and/or solids in accordance with all applicable local, state, and federal laws, rules, regulations, and orders shall be the responsibility of the CONTRACTOR.

D. Any sampling and analyses necessary to protect the health and welfare of the CONTRACTOR's employees and/or agents and/or characterize collected water or treated water and associated sludge shall remain the sole responsibility of the CONTRACTOR.

E. CONTRACTOR shall characterize construction water removed from the excavations and any settled solids as necessary for disposal.

F. No CONTRACTOR proposed facility for off-site disposal shall be utilized without prior acceptance by the ENGINEER. For all wastes disposed of off-site, CONTRACTOR is responsible for characterizing of such material and arranging for proper temporary storage, transportation and disposal in accordance with all applicable federal, state and local laws, rules, regulations, and orders at no additional cost to the DEPARTMENT.

G. CONTRACTOR shall dispose of waters designated for off-site disposal within 30 days of collection.

H. CONTRACTOR shall mark, label, placard, package and manifest wastes in accordance with all applicable laws, rules, codes, regulations, and statutes.

I. The CONTRACTOR shall make every effort to minimize the generation of construction water and associated sludges. Appropriate methods to minimize generation of construction water include, but are not limited to, erection of temporary berms, use of low permeability tarpaulin or suitable means to cover exposed contaminated areas, limiting the amount of exposed contaminated areas, grading to control run-on and run-off, engineering controls on construction activities to minimize contact of personnel and equipment with contaminated areas thus minimizing the amount of decontamination required, and other appropriate methods.

J. Construction water and associated sludges shall be handled using equipment compatible with anticipated contaminants which may be present.

K. The CONTRACTOR shall be solely responsible for the on-site construction water treatment system (if used) set up, debugging, operation, testing, shut-down, decontamination, dismantling and removal subsequent to completion of the Work, including removal of all materials incidental to treatment system operations.

+ + END OF SECTION + +

ARTICLE V

DISCHARGE RESTRICTIONS

SECTION 501 PROHIBITED MATERIALS, SUBSTANCES AND WASTES
SECTION 502 PROHIBITED TOXIC SUBSTANCES AND PATHOGENIC ORGANISMS
SECTION 503 PERMISSIBLE CONCENTRATIONS OF TOXIC SUBSTANCES
SECTION 504 MATERIALS, SUBSTANCES AND WASTES REQUIRING APPROVAL
SECTION 505 MODIFICATION TO DISCHARGE LIMITS
SECTION 506 EXCLUSION OF UNPOLLUTED WATERS
SECTION 507 ACTION BY THE COMMISSIONER
SECTION 508 AFFIRMATIVE DEFENSES

§ 501. PROHIBITED MATERIALS, SUBSTANCES AND WASTES

(a) General Prohibitions: No person may introduce into the POTW any pollutant(s) or wastewater that will pass through or interfere with the operation or maintenance of the POTW. These general prohibitions as defined or modified in 40 CFR 403.5(a), and the specific prohibitions in paragraph (b) and (c) of this Section apply to each person discharging pollutant(s) or wastewater into the POTW whether or not that person is subject to other pretreatment standards or any other Federal, State or local pretreatment requirements.

(b) Specific Prohibitions: Without limiting the generality of the foregoing, the following substances, as listed or modified in 40 CFR 403.5(b), shall not be introduced into the POTW:

(1) pollutants that create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;

(2) pollutants that will cause corrosive structural damage to the POTW, but in no case discharges with a pH less than 5.0 or greater than 12.5;

(3) solid or viscous pollutants in amounts that will cause obstruction to the flow in the POTW resulting in interference;

(4) any pollutant, including oxygen demanding pollutants (BOD, COD, etc.), released in a discharge at a flow rate and/or pollutant concentration that will cause pass through or interference with the POTW;

(5) heat in amounts that will inhibit biological activity in the POTW resulting in pass through or interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 104 degrees F (40 degrees C);

(6) petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

(7) pollutants that result in the presence of malodorous, noxious or toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

(8) any trucked or hauled pollutants, except as permitted at discharge points designated by the Commissioner.

(c) Additional POTW-Specific Prohibitions: Except as hereinafter provided, no person shall discharge or cause to be discharged into any County interceptor sewer or public sewer tributary thereto, or any private sewer connecting with a public sewer, any of the following materials, substances or wastes:

(1) solid or viscous substances, in quantities or of such size or state capable of causing obstruction to the flow in sewers, or interference with the proper operation of the POTW. Such prohibited substances include, but are not limited to: fats, oils, greases, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, tar, plastics, wood, unground garbage, whole blood, paunch manure, feathers, hair and fleshings, entrails, paper dishes, cups, milk containers, etc., either whole or ground by garbage grinders; unless explicitly allowable by written permit and provided such discharge does not cause pass through or interference at the POTW or problems within the County's interceptor sewers or public sewers tributary thereto;

(2) any solids, liquids or gases that, either singly or by interaction with other substances, are or may be sufficient to cause fire or explosion, or be injurious or interfere in any way with the POTW, or to constitute a hazard to humans or animals, or to create a public nuisance, or to create any hazards in the receiving waters of a sewage treatment plant effluent, or exceed the limitation set forth in a Categorical Pretreatment Standard. Such prohibited materials include, but are not limited to: gasoline, fuel oil, kerosene, naphtha, benzene, ethylbenzene, toluene, xylene, ethers, alcohols, carbides, hydrides, and sulfides, and any other substances that the County, State or USEPA has determined to be a fire hazard, or hazard to the POTW or its personnel; unless explicitly allowable by written permit and provided such discharge does not cause pass through or interference at the POTW or cause a fire or explosive hazard;

(3) any substances that may cause the POTW's effluent or any other product of the POTW such as residues, sludges, or scums, to be unsuitable for reclamation processes. In no case, shall a substance discharged to the POTW be permitted to cause the POTW to be in noncompliance with its sludge use or disposal process pursuant to the Clean Water Act, Solid Waste Disposal Act, the Toxic Substances Control Act, or other Federal of State criteria applicable to the sludge management method being used; and

(4) any substance that will cause the POTW to violate its SPDES permit limitations, the receiving water quality standards, or any other regulations or permit conditions imposed on the POTW by regulatory agencies.

§ 502. PROHIBITED TOXIC SUBSTANCES AND PATHOGENIC ORGANISMS

(a) The following is a partial list of toxic substances and pathogenic organisms, the discharge of which into the County interceptor sewer system or public sewers tributary thereto is hereby prohibited, unless their concentration:

(1) is reduced by treatment at the source to a point that will meet the objectives stated in Sections 102 and 103 of this Law or come within the applicable standards set forth elsewhere in this Article;

(2) will not adversely affect any of the biological, chemical or physical POTW processes; or

(3) will not adversely affect the receiving water after discharge from any point in the POTW:

(a) antibiotics;
(b) arsenic and arsenicals;
(c) benzene, ethylbenzene, toluene and xylene;
(d) bromine, iodine, chlorine;
(e) copper and copper salts;
(f) cresols or creosotes;
(g) fluorides;
(h) formaldehyde;
(i) mercury and mercurials;
(j) phenolic compounds;
(k) silver and silver compounds;
(l) sulfonamides, toxic dyes (organic or mineral);
(m)zinc compounds;
(n) all strong oxidizing agents such as chromates, dichromates, permanganates, peroxides, etc.;
(o) chemical compounds producing toxic, flammable or explosive gases, either upon acidification, alkalization, oxidation, or reduction;
(p) strong reducing agents such as nitrites, sulfides, sulfites, thiosulphates, etc.;
(q) wastes from industrial processes or hospital procedures containing viable pathogenic organisms;
(r) NYSDEC Substances of Concern;
(s) RCRA Listed or Characteristic Hazardous Waste (40 CFR Parts 261-272); and
(t) CWA Priority Pollutants.

(b) The above list shall not be deemed all-inclusive and the Commissioner may add or revise the same whenever he deems it advisable.

§ 503. PERMISSIBLE CONCENTRATIONS OF TOXIC SUBSTANCES

(a) The daily average concentration in sewage of any of the following toxic substances shall not exceed those concentrations judged by the Commissioner to be toxic to biological sewage treatment processes or to the biota of the receiving waters, and shall not, in any case, exceed the limits specified below, as measured in a daily 24-hour composite sample of a continuous discharge, a grab sample of a batch discharge, or a composite sample representing the normal wastewater generation for discharges that are not continuous. These limits apply at the point where the wastewater is discharged to the sewer. These limits may be made more stringent by the Commissioner whenever operating experience indicates that this is necessary or are superseded by Federal Categorical Pretreatment Standards when and if such Federal standards are more stringent. These limits shall not be applicable to scavenger wastes from domestic septage.

Toxic Substance	Permissible Concentration
Arsenic	1.0 mg/l
Bis(2-ethylhexyl)phthalate	*
Cadmium	1.0 mg/l
Chromium, total	5.0 mg/l
Copper	3.0 mg/l
Cyanide	3.0 mg/l
Lead	5.0 mg/l
Mercury	*
Nickel	2.0 mg/l
Silver	5.0 mg/l
Zinc	4.0 mg/l

* Specific discharge limits shall be set in individual user permits based upon maximum allowable headworks loadings (MAHLs) for the POTW. Permissible concentrations shall be allocated to industrial users in proportion to each industrial user's current loading .

(b) The method and type of sampling shall be determined by the Commissioner based on the industry's type of operation and the sampling and analysis requirements of the National Pretreatment Program as listed in 40 CFR 403.12(b)(5).

(c) To assure that the above noted limitations are not violated, the Commissioner shall issue permits to Significant Industrial Users specifying limits for the discharge of the substances noted above and any other pollutants of concern specifically related to the industrial activities conducted by the user. Industries subject to Categorical Standards shall comply with the more stringent of the Categorical Standards and the limits set forth above.

§ 504. MATERIALS, SUBSTANCES AND WASTES REQUIRING APPROVAL

(a) No person shall discharge or cause to be discharged the following described substances, materials, waters or wastes unless it is the opinion of the Commissioner that such discharge will not

adversely affect the POTW, POTW treatment plant, sewage treatment processes, receiving stream, sludge disposal options, or otherwise endanger human and animal life, limb, public property, or constitute a nuisance. The substances, materials and wastes listed below are subject to the approval of the Commissioner.

(1) Wastes from the following industrial processes may require pretreatment and/or approval before discharge into the County interceptor sewer system and public sewers tributary thereto: baking, brewing, distilling, public laundering, laundromats, soap making, glue manufacturing, meat packing, food processing, wool scouring, bleaching and dyeing, munitions manufacturing, oil refining, wool washing, rubber production, salt works, slaughterhouses, dairies, dairy products, sugar refining, fat rendering, manufacture of syrups, jam or jelly, cotton textile manufacture or processing, or any industrial process producing wastes with strong acid or alkaline reactions or that will form deposits in or cause damage to the POTW. Refer to Section 601 of this Law for additional users subject to pretreatment requirements. The process or processes employed in the pretreatment of such wastes shall in each case be satisfactory to, and shall have the written approval of, the Commissioner, as set forth under Article IX.

(2) Wastes generated from underground storage tank (UST) remediation can only be discharged after approval of the Commissioner. The contents of a leaking UST may have to be hauled away, with on-site treatment of the surrounding groundwater. The treated groundwater may be accepted for discharge into the County sewer system at the discretion of the Commissioner, provided that:

(a) the waste is not prohibited as set forth in this Article;

(b) the headspace lower explosive limit (LEL) of the treated groundwater is less than 10%; and

(c) the total toxic organics (TTO) and/or the benzene-ethylbenzene-toluene-xylene (BETX) is less than 2 mg/l.

(3) Wastes from automotive service areas and car washes may require pretreatment to keep the oil and grease levels below 100 mg/l and to prevent excessive discharges of inert solids. The process or processes employed in the pretreatment of such waste must be satisfactory to meet all effluent requirements imposed by the Commissioner.

(4) Wastes from Superfund site cleanup operations may be accepted at the discretion of the Commissioner provided that documentation is provided that the waste is no longer classified hazardous or toxic and meets all the requirements of this Law. The POTW will not accept, under any circumstance, RCRA defined hazardous or toxic waste by truck, rail or dedicated pipe.

(5) any liquid, solid, vapor or gas having a temperature higher than 150 degrees Fahrenheit (65 degrees Centigrade) or any liquid, solid or vapor that will cause the temperature of the influent to the POTW treatment plant to be greater than 104 degrees F (40 degrees C). The

Commissioner reserves the right, in certain instances, to prohibit wastes at temperatures lower than 150 degrees F (65 degrees C).

(6) any commercial, industrial or institutional waters or wastes containing fats, wax, grease, or oils, whether emulsified or not, in excess of 100 mg/l, or containing substances that may solidify or become appreciably viscous at temperatures between 32 degrees and 150 degrees F (0 and 65 degrees C).

(7) any waters or wastes containing strong acid metal pickling waste, or concentrated plating solutions, whether neutralized or not.

(8) any waters or wastes containing toxic substances, pathogenic organisms, or similar objectionable material, as specified under Section 502 of this Law.

(9) any waters or wastes containing phenols, or other taste or odor producing substances, in concentrations exceeding limits as may be established by the Commissioner.

(10) any radioactive wastes, fission products or isotopes except as approved by the Commissioner, and in compliance with applicable State and Federal regulations. The active elements and their local concentration permitted to be discharged into the public sewers shall be based upon the latest knowledge available in this technology and be at all times within limits set by this and other County, State and Federal agencies.

(11) Materials that contain or cause:

> **(a)** concentrations of inert suspended solids greater than that found in normal sewage, such as but not limited to, Fuller's earth, lime slurries and lime residues, or of dissolved solids, such as but not limited to, sodium chloride and sodium sulfate;
>
> **(b)** excessive discoloration of the POTW or in the receiving waters, such as but not limited to, dye wastes and vegetable tanning solutions; or
>
> **(c)** suspended solids, biochemical oxygen demand, chemical oxygen demand, ammonia, total Kjeldahl nitrogen, or chlorine demand, in concentrations exceeding those found in normal sewage, except as provided for elsewhere in this Article.

(12) waters or wastes containing substances that are not amenable to treatment or reduction in concentration by the sewage treatment plant processes employed, or are amenable to treatment only to such a degree that the sewage treatment plant effluent cannot meet the requirements of regulatory agencies having jurisdiction over discharge to the receiving waters.

(13) any slug discharges.

(14) any wastes that give a combustible gas meter reading of greater than 10% of the lower explosive limit (LEL) for the average of at least four consecutive grab samples taken in a

24-hour period, or a single reading of greater than 15% of the LEL. This is a head space measurement made subsequent to vigorous agitation of a 500 ml bottle that is halfway filled with waste. The Commissioner reserves the right to prohibit waste at lower LEL readings.

(15) any waste with a total toxic organic concentration greater than 2.0 mg/l calculated as the sum of all detectable Clean Water Act Priority Pollutant organics present individually at levels greater than 0.010 mg/l.

§ 505. MODIFICATION TO DISCHARGE LIMITS

(a) Combined Wastestream Formula: Where the process effluent of an industrial process subject to Categorical Pretreatment Standards is mixed, prior to treatment, with wastewaters other than those generated by the regulated process(es), fixed alternative discharge limits may be derived by the Commissioner or by the industrial user with the written concurrence of the Commissioner, in accordance with the procedures described in 40 CFR 403.6(e). These modified discharge limits shall be applied to the mixed effluent discharge.

(b) Fundamentally Different Factors Variance: Where the Commissioner deems it necessary, the limits defined by Categorical Pretreatment Standards may be adjusted on a case-by-case basis, making them either more or less stringent. This may be done if data specific to the industrial user indicates it presents factors fundamentally different from those considered by USEPA in developing the limit at issue. Modification to concentration limits for fundamentally different factors shall be as prescribed in 40 CFR 403.13. Applications for fundamentally different variances must be submitted to USEPA Region 2 in accordance with 40 CFR 403.13 (g) and (h).

(c) Net/Gross Determination: Categorical pretreatment standards may be adjusted to reflect the presence of pollutants in the industrial user's intake water in accordance with 40 CFR 403.15. Any industrial user wishing to obtain credit for intake pollutants shall make application to the Commissioner, and the applicable pretreatment standard may be calculated on a net basis, provided that the requirements and provisions of the Act are met.

(d) General Modifications:

(1) When the volume or character of a single industrial waste discharge, the combined industrial waste discharge, or a group of industries within a single contributory area is such that it raises a question of the ultimate concentration or mass of pollutants discharged to the POTW, and whether they will be effectively removed by the POTW treatment plant without causing deleterious effects to the POTW, receiving waters or sludge disposal options, the Commissioner may impose separate or special discharge limits upon the contributors of such discharge.

(2) Limitations on wastewater strength contained in Sections 501, 502, 503 and 504 of this Law may be supplemented with more stringent limitations or limits for additional pollutants not listed in said Sections when, in the opinion of the Commissioner:

(a) the limitations in this Law are not sufficient to protect the POTW;

(b) the limitations in this Law are not sufficient to enable the POTW treatment plant to comply with applicable water quality standards or the effluent limitations specified in the POTW's SPDES permit;

(c) the POTW sludge will be rendered unacceptable for treatment, processing, disposal or reuse as the County desires;

(d) POTW workers or the public will be endangered; or

(e) air pollution and/or groundwater pollution will be generated.

§ 506. EXCLUSION OF UNPOLLUTED WATERS

(a) No person shall discharge or cause to be discharged into any County interceptor sewer system or public sewer tributary thereto any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process water except as provided in Article IV of this Law.

§ 507. ACTION BY THE COMMISSIONER

(a) If any waters or wastes are discharged or are proposed to be discharged to the County interceptor sewers or public sewers tributary thereto, that contain the substances or the characteristics enumerated in Section 504 of this Article, and that, in the judgement of the Commissioner may have a deleterious effect upon the sewage works, processes, equipment, receiving waters or sludge disposal options, or that may otherwise create a hazard to life, or constitute a public nuisance, the Commissioner may:

(1) reject the waters or waste;

(2) initiate an enforcement action;

(3) require pretreatment to an acceptable condition for discharge to the public sewers;

(4) require control over the quantities and rates of discharge;

(5) require payment to cover the added cost of handling and treating the waters or wastes; and/or

(6) issue a wastewater discharge permit stating specific requirements for discharge to the POTW.

Notes: See Article IX, "Discharge Permits and Reporting Requirements."

See Article XI, Section 1103 " Sewerage Surcharge."

§ 508. AFFIRMATIVE DEFENSES

(a) A user shall have an affirmative defense in any action brought against it alleging a violation of the prohibitions established in Sections 501(a) or 501(b)(3) through (7) of this Law, where the user can demonstrate that:

(1) it did not know or have reason to know that its discharge, alone or in conjunction with discharge(s) from other sources, would cause pass through or interference at the POTW; and

(2) a local limit designed to prevent pass through or interference, as the case may be, was developed in accordance with 40 CFR 403.5(c) for each pollutant in the user's discharge that caused pass through or interference, and the user was in compliance with each such local limit directly prior to and during the pass through or interference at the POTW.

(3) a local limit designed to prevent pass through and/or interference, as the case may be, has not been developed in accordance with 40 CFR 403.5(c) for the pollutant(s) that caused the pass through or interference, and the user's discharge directly prior to and during the pass through or interference did not change substantially in nature or constituents from the user's prior discharge activity when the POTW was regularly in compliance with the POTW's NPDES permit requirements and, in the case of interference, applicable requirements for sewage sludge use or disposal.

END OF ARTICLE V

SECTION 01 71 33

PROTECTION OF THE WORK AND PROPERTY

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes general requirements for safety and protection that augment the requirements of the General Conditions, as may be modified by the Supplementary Conditions. This Section also includes requirements for barricades and warning signals, and protection of trees and plants, existing structures, floors, roofs, installed items, and landscaping.
   2. CONTRACTOR shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect personnel health and safety, and to protect the Work and all public and private property and facilities from damage, as specified in the General Conditions, Supplementary Conditions, and the Specifications.
   3. To prevent damage, injury, or loss, CONTRACTOR's actions shall include the following:
      a. Provide measures for safety of personnel at the Site, including workers engaged in the Work, delivery personnel, testing and inspection personnel, personnel of authorities having jurisdiction, other visitors to the Site, the public, DEPARTMENT's personnel, facility manager's personnel (if different from DEPARTMENT), ENGINEER, and Resident Project Representative (if any).
      b. Storing apparatus, materials, supplies, and equipment in an orderly, safe manner that does not unduly interfere with progress of the Work or work of other contractors, utility owners, and owners of transportation rights-of-way.
      c. Providing suitable storage facilities for materials and equipment subject to damage or degradation by exposure to climate, temperature, theft, breakage, or other cause.
      d. Placing upon the Work or any part thereof only loads consistent with the safety and integrity of that portion of the Work and existing construction.
      e. Frequently removing and disposing of refuse, rubbish, scrap materials, and debris caused by CONTRACTOR's operations so that, at all times, the Site is safe, orderly, and workmanlike in appearance.
      f. Providing temporary barricades, fencing, and guard rails around the following: openings, scaffolding, temporary stairs and ramps, around excavations, for elevated walkways, and other areas that may present a fall-hazard or hazard to vehicles.

4. Do not, except after written consent from proper parties, enter or occupy privately-owned property or premises with personnel, tools, materials or equipment, except on lands and easements provided by DEPARTMENT.
5. CONTRACTOR has full responsibility for preserving public and private property and facilities on and adjacent to the Site. Direct or indirect damage done by, or on account of, any act, omission, neglect, or misconduct by CONTRACTOR in executing the Work, shall be remedied by CONTRACTOR, at his expense, to condition equal to that existing before damage was done.
6. DEPARTMENT May Remedy:
    a. Should CONTRACTOR fail to protect and safeguard property and the Work after requests from ENGINEER or DEPARTMENT, DEPARTMENT may implement measures to protect property and the Work.
    b. Cost of such DEPARTMENT-implemented measures shall be paid by CONTRACTOR. DEPARTMENT may deduct from payments due CONTRACTOR such amounts as set-offs in accordance with the Contract Documents.
    c. Such right, however, shall not result in any obligation by DEPARTMENT or ENGINEER to continuously monitor or have responsibility for protection of property and the Work, which responsibility is exclusively CONTRACTOR's.

1.2 SUBMITTALS

A. The CONTRACTOR shall provide a plan detailing how the CONTRACTOR will monitor and protect existing structures during the project. The plan shall be submitted for review and acceptance by the ENGINEER. If damage to existing structures occurs, work shall immediately cease and alternate means and methods shall be developed by the CONTRACTOR to be approved by the ENGINEER. Any damage that occurs to existing structures as the result of the CONTRACTOR's activities shall be repaired to the satisfaction of the DEPARTMENT at no additional cost to the DEPARTMENT.

B. Prior to initiating activities, the CONTRACTOR shall utilize the services of an independent Professional Engineer licensed to practice in the State of New York to perform a structural evaluation of the National Grid Towers and County Sewer Lines. The evaluation shall include, at a minimum, video and photographic documentation of the pre-construction conditions. At the completion of the project, a post-remediation structural evaluation shall be performed to compare and document pre and post remediation conditions. A report sealed and signed by the Professional Engineer retained by the CONTRACTOR shall be provided documenting the findings of the evaluations. All evaluations shall be performed in the presence of the DEPARTEMT and ENGINEER unless otherwise directed

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 BARRICADES AND WARNING SIGNALS

A. Barricades and Warning Signals – General:
   1. Where the Work is performed on or adjacent to roadway, access road or driveway, right-of-way, or public place:
      a. Provide temporary barricades, fences, lights, warning signs, danger signals, watchmen, and take other precautionary measures for protecting persons, property, and the Work.
      b. Use appropriately colored and reflective barricades, or paint barricades accordingly, to be visible at night.
      c. From sunset to sunrise, provide and maintain not less than one temporary light at each barricade.
      d. Erect sufficient barricades to keep vehicles from being driven on or into Work under construction.
      e. Furnish watchmen in sufficient numbers to protect the Work.

   2. Provide temporary barricades to protect personnel and property for Work not in or adjacent to transportation routes and vehicular travel areas, including indoor work, in accordance with Laws and Regulations.
   3. CONTRACTOR's responsibility for maintaining temporary barricades, signs, lights, and for providing watchmen shall continue until the Work is substantially complete in accordance with the Contract Documents, unless other provision for security and protection is agreed to by the parties. After Substantial Completion, protect Work and property during periods when final Work or corrective Work is underway.

B. Temporary Fencing: Refer to Section 01 57 33, Security.

3.2 TREE AND PLANT PROTECTION

A. Tree and Plant Protection – General:
   1. Protect existing trees, shrubs, and plants on or adjacent to the Site, shown or designated to remain in place, against unnecessary cutting, breaking, damage, or skinning of trunk, branches, bark, and roots.
   2. Do not store materials or equipment or park construction equipment and vehicles within foliage drip lines.
   3. In areas subject to traffic, provide temporary fencing or temporary barricades to protect trees and plants.
   4. Open fires are not allowed onsite.
   5. Within the limits of the Work, water trees and plants that are to remain to maintain their health during construction operations.
   6. Cover exposed roots with burlap and keep such burlap continuously wet. Cover exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, runoff, and noxious materials in solution.

7. If branches or trunks are damaged, prune branches immediately and protect cut or damaged areas with emulsified asphalt compounded specifically for horticultural use, in manner acceptable to ENGINEER.
8. When directed by ENGINEER, remove and dispose of at location away from the Site damaged trees and plants that die or suffer permanent injury, and replace each damaged tree or plant with specimen of equal or better species and quality.
9. Coordinate Work in this Article with the following Specifications:
    a. Section 31 11 00, Clearing and Grubbing.

3.3 PROTECTION OF EXISTING STRUCTURES

A. Surface Structures:
    1. All existing overhead power lines and structures

B. Protection of Underground Facilities and Surface Structures
    1. Oneida County sewer structures

3.4 PROTECTION OF INSTALLED MATERIALS, EQUIPMENT, AND LANDSCAPING

A. Protect installed Work to prevent damage from subsequent operations. Remove protective items when no longer needed, prior to Substantial Completion of the Work.
B. Control traffic to prevent damage to equipment, materials, and surfaces.
C. Coverings:
    1. Provide temporary coverings to protect materials and equipment from damage.
    2. Cover projections, wall corners and jambs, sills, and soffits of openings, in areas used for traffic and for passage of materials and equipment in subsequent work.

+ + END OF SECTION + +

SECTION 02 21 13

SURVEYS

PART 1 – GENERAL

1.1 SUMMARY

A. This section describes the requirements of survey work associated with the project to be performed which include:
   1. Surveys for payment purposes including but not limited to;
      a. Pre- and post-construction topographic
   2. Survey limits of excavations, utility closures, below grade pits, vaults, trenches, and other physical features where work was performed or that remains at the site.
   3. Photographic documentation of the site in general
   4. Photographic documentation of the National Grid Right of Way including the power poles.
   4. Environment Easement Survey shall be completed at the completion of the remediation.

B. Horizontal and Vertical Control
   1. Reference horizontal and vertical control points to the permanent site control monuments, as provided by the surveyor, to an accuracy of one part in ten thousand.
   2. Provide grade and offset stakes to control the location and depth of excavation, fill, and restoration work. Survey the location and elevation of all excavation and fill limits.

C. Topographic Survey Map
   1. The surveyor shall develop a base map at a scale of 1 inch = 40 feet, maximum with 1-foot elevation contours upon which the surveyor shall plot the required survey information for each required submittal.
   2. Mapping shall conform to the National Map Accuracy Specifications and shall bear the seal of a licensed professional land surveyor registered in New York. Map shall contain a title block with the name, address, and the seal and signature of the registered surveyor. As-Built drawings shall include labeled contour lines, property line locations, horizontal grid systems, cross-sections and details modified to show As-Built conditions, details and cross-sections not on original drawings, and any field changes of elevations, dimensions, and details.
   3. New and existing contour information shall be combined on the survey. All initial contour information in the electronic file replaced by new work shall be deleted in the final submission.
   4. Indicate locations of physical features on the site including, but not limited to: utilities, roadways, culverts, manholes, utility poles, fences, gates,

drainage ditches, monitoring wells, piezometers, benchmarks and other significant items.

5. Indicate on a separate drawing: excavation limits and sampling points.
6. The final survey will contain a written description of the metes and bounds limits for adjoining properties along with all the additional requirements specified under Part 3 - Execution 3.1.C. to provide an Environmental Easement Survey.

D. Coordinate List
   1. Compute the coordinates of each surveyed point on the North American Horizontal Datum of 1983, New York State Plane Central Zone 3102. The elevations shall be on the North American Vertical Datum of 1988 (NAVD 88).

E. Site Control
   1. The surveyor shall provide at least one permanent site control monument with elevations referenced to the North American Vertical Datum of 1988 (NAVD 88)and the North American Horizontal Datum of 1983, New York State Plane Central Zone 3102 benchmark and coordinates. The monument locations and elevations shall meet the Federal Geodetic Control Committee Standard for second order (horizontal and vertical). Final locations shall be reviewed by the ENGINEER for acceptability.

F. Survey Notes
   1. The CONTRACTOR shall record all field work in a clear, legible, and complete manner. The Field Notes shall contain a complete description of the nature and location of the new and existing points. The record shall also include a sketch of the point locations and the monument witness points.

G. Pre-Existing Condition Documentation
   1. The CONTRACTOR shall perform a digital photograph and digital video record of all work areas prior to construction. Surface features, road conditions, vegetation details, residence properties, and adjacent areas shall be thoroughly documented, and that documentation shall be provided to the ENGINEER prior to construction for acceptance as .jpg, and .wav files on CD-ROM.

1.2 SUBMITTALS

A. The credentials of the surveyors performing the project survey work. Survey work shall be performed by or under the review of a New York State Licensed Land Surveyor (LLS).

B. The submittals described below are minimum requirements for surveying. Additional surveys needed to document quantities for payment will also be performed as part of the surveying requirements.
   1. Photographic Documentation

a. Photograph and video record (in high definition) all pre-construction site conditions, including; adjacent residences, commercial and recreational properties, front lawns, foliage, driveways, sewer grates, slope soils, surface and above grade utilities, appurtenances, guardrails, and trees.
b. Document completed work areas and pre-existing site conditions.

2. Drawings
   a. Initial Topographic Map
      1) Provide a topographic map of site property and surrounding properties in the limits of work, excavation limits, restoration limits, roads around the site to be heavily traveled by the CONTRACTOR, and utilities prior to site disturbance. Show surveyed information in a state plane coordinate list. One-foot contours and a 1-inch to 40-foot scale are required.
      2) Temporary Site Benchmark locations with horizontal and vertical control and coordinates are provided on the Contract Drawings.
   b. Survey information of critical remedial features and locations
      1) Locate physical features (below grade or above grade) that have been uncovered or that remain at the site. These shall become part of the final As-Built drawings of the remediation. Items to be surveyed include, but are not limited to are former pits, capped areas, bioremediation areas, vaults, trenches, utilities, remedial areas, sampling locations, foundations, fences, excavations, subgrade, finished grading, and restoration areas.
   c. Final Survey
      1) Upon completion of the final backfill of materials, grading and restoration of all disturbed surfaces, the CONTRACTOR shall provide a final survey.
      2) The status of the survey and title search is provided to the CONTRACTOR in draft. Upon completion of the demolition and restoration work the survey shall be finalized for submission to the ENGINEER by the CONTRACTOR.
      3) The CONTRACTOR shall submit quantity estimates and back-up survey data and calculations to support review of contract quantities by the ENGINEER prior to payment for this item. Final location and elevation of all construction areas, including vegetation.
      4) Location of all confirmation or documentation sample points.

3. Post Construction Records
   a. JPG files for all digital photographs and MPEG or WAV files for high definition video on compact disc.
   b. Most current version of AutoCAD and Adobe Acrobat 9.0 or higher compatible electronic files of all surveys (provide data in acceptable electronic format).
   c. Field Data
      1) Submit the original final survey book (hard bound) upon completion of each phase of survey work. Include all field notes, notations, and

descriptions used and compiled during the field survey. Photocopies or carbon copies are not acceptable.

d. Coordinate List
   1) Final coordinate list in New York State Plane coordinates of all survey points with specific coordinates and elevations (provide data in .txt, .xls, or .csv format via acceptable electronic media.

e. Quantity Calculations
   1) All calculations required supporting the requests for CONTRACTOR Application Payments (CAPs) and verifications of volumes, areas, and lengths involved.

PART 2 – PRODUCTS
(NOT APPLICABLE)

PART 3 – EXECUTION

3.1 GENERAL

A. The following surveys must be conducted during the Project and will form the basis of measurement for payment of most cubic yard, linear foot, and square foot pay items:
   1. An initial site survey to establish and verify existing site conditions, permanent or fixed structures and general physical features to properly lay out the work as shown on the Contract Drawings.
   2. Spot elevations and locations shall be established and surveyed as necessary to ensure that work is installed to the grades shown on the Drawings, including spot elevations of any drainage structures.
   3. Following soil/waste excavations, the limits shall be surveyed to document the volumes of material that have been removed, as a base survey for measurement of materials.
   4. The final grading of the site areas.

B. All work in this section shall be performed by a licensed professional land surveyor registered to practice in the State of New York.

C. In addition to the surveys required for payment purposes, NYSDEC requires an Environmental Easement Survey to be performed which includes the following:

Scope of Work

- The survey must include a metes and bounds description.
- The survey boundaries must be drawn to a convenient scale, with that scale clearly indicated. A graphic scale, shown in feet and meters, must be included.
- The survey must include a Tax Map Section, Block and Lot.

- Survey must include a physical address that is consistent with the DEC Agreement/Order/SAC.
- The survey must bear the name, address, telephone number, signature and certification of the professional land surveyor who performed the survey, his or her official seal and registration number, the date the survey was completed, the dates of all of the surveyor's revisions.
- The symbols and abbreviations that are used on the survey must be identified by the use of a legend.
- Diagrams must be accurately presented.
- The point of beginning of the legal description must be shown.
- The legal description must be correct.
- The legal description must state the acreage.
- If the deed(s) description differs from the measured bearings/angles/distances, both must be indicated on the survey.
- The survey must show the location of all buildings/monuments/overlaps/encroachments upon the surveyed property with their locations defined by measurement perpendicular to the nearest perimeter boundaries.
- The survey must depict the location of visible improvements within five feet of each side of boundary lines.
- The survey must show ponds, lakes, springs, rivers or a natural water boundary bordering on or running through the surveyed property; the survey must measure the location of the natural water boundary and note on the survey the date of the measurement.
- The survey must correctly depict the environmental easement area with corresponding metes and bounds description and acreage, and include the following sentence:
  "This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law. The engineering and institutional controls for this Easement are set forth in more detail in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS

Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov".

This reference must be located on the face of the survey and be in at least 15-point type.

- If the survey consists of more than one sheet, sheets must be numbered and the total number of sheets must be indicated on each sheet.
- In addition to county-specific requirements, submittal of the approved survey to the Department must include the following:
    - A "D" sized copy (24" x 36") of the final signed, stamped map
    - A 600 DPI scan of the final signed, stamped map
    - An AutoCad .dwg or exported .dxf file of the polyline (at a minimum) of the final survey.

+ + END OF SECTION + +

SECTION 02 41 00

DEMOLITION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals as shown, specified and required for demolition, removal, and disposal Work.
   2. The Work under this Section includes, but is not necessarily limited to:
      a. Demolition and removal of existing materials and equipment as shown or indicated in the Contract Documents. The Work includes demolition of structural concrete, foundations, walls, doors, windows, structural steel, metals, roofs, masonry, and similar existing facilities.
      b. Demolition and removal of all Underground Facilities underneath, and above-grade piping and utilities in, the building(s) and structures shown or indicated for demolition, unless the Underground Facilities or above-grade facilities are shown or indicated as to remain.
   3. Demolitions and removals specified under other Sections shall comply with requirements of this Section.
   4. Perform demolition Work within areas shown or indicated.
   5. Pay all costs associated with transporting and, as applicable, disposing of materials and equipment resulting from demolition.
   6. Existing building complex (Former Incinerator Buildings, Incinerator Stack, and Abandoned Pumphouse) to be demolished have been condemned. A letter of condemnation is on DECinfolocator (https://extapps.dec.ny.gov/data/DecDocs/633015/.) As such the demolition and demolition debris shall be handled in accordance to applicable rules and regulations and Section 02 82 33 Controlled Demolition with Asbestos In Place.. All demolition debris will be considered Asbestos Containing Material and lead-based paint, and shall be disposed of off site..

B. Coordination:
   1. Review procedures under this and other Sections and coordinate the Work that will be performed with or before demolition and removals.
   2. Upon Notice of Intent to Award, CONTRACTOR shall provide all necessary information needed to support a site-specific asbestos variance petition, if CONTRACTOR will be requesting a variance.
   3. The Contractor shall update property records for the City for future development of this area.
   4. If material is excavated from this area or the arson area in the future, the management of asbestos containing material shall be performed in accordance with DOL Code Rule 56.

C. Related Sections:

1. Section 02 82 33, Controlled Demolition with Asbestos in Place.

1.2 QUALITY ASSURANCE

A. Qualifications:
   1. Electrical Removals: Entity and personnel performing electrical removals shall be legally qualified to perform electrical construction and electrical work in the jurisdiction where the Site is located.

B. Regulatory Requirements:
   1. Demolition, removal, and disposal Work shall be in accordance with 29 CFR 1926.850 through 29 CFR 1926.860 (Subpart T - Demolition), and all other Laws and Regulations.
   2. Comply with requirements of authorities having jurisdiction.
   3. Comply with 12 NYCRR Part 56.

1.3 SUBMITTALS

A. Informational Submittals: Submit the following:
   1. Procedure Submittals:
      a. Final Demolition and Removal Plan: As part of the Remedial Action Work Plan, submit an acceptable plan for demolition and removal Work, including:
         1) Plan for coordinating shut-offs, capping, temporary services, and continuing utility services.
         2) Other proposed procedures as applicable.
         3) Equipment proposed for use in demolition operations.
         4) Planned demolition operating sequences.
         5) Detailed schedule of demolition Work in accordance with the accepted Process Schedule.
   2. Notification of Intended Demolition Start: Submit in accordance with Paragraph 3.1.A of this Section.
   3. Qualifications Statements:
      a. Name and qualifications of entity performing electrical removals, including copy of licenses required by authorities having jurisdiction.
      b. Name and qualifications of entity performing plumbing removals, including copy of licenses required by authorities having jurisdiction.

1.4 DEFINITIONS

A. “TYPE I Structure”: Building structure or foundation containing no ACM. This structure shall be demolished in accordance with this Section.

B. “TYPE II Structure”: Building structure or foundation that contains presumed asbestos containing material (PACM). PACM confirmed as asbestos containing material (ACM) in this structure or foundation must be abated in place as Class I or

Class II asbestos work in accordance with 12 NYCRR 56 and Specification Section 02 82 33, Removal and Disposal of Asbestos Containing Materials.

C. "TYPE III Structure": Formally condemned building structure or foundation that contains presumed asbestos containing material (PACM). PACM confirmed as asbestos containing material (ACM) in this structure or foundation must be treated as controlled demolition in accordance with 12 NYCRR 56 and Specification Section 02 82 33, Controlled Demolition with Asbestos In-Place.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 PREPARATION

A. Notification:
   1. At least 48 hours prior to commencing demolition, notify ENGINEER in writing of planned start of demolition Work. Do not start Demolition without permission of ENGINEER.

B. Protection of Surrounding Areas and Facilities:
   1. Perform Demolition Work in manner that prevents damage and injury to property, structures, occupants, the public, and facilities. Do not interfere with use of, and free and safe access to and from, structures and properties.
   2. Closing or obstructing of roads, drives, sidewalks, and passageways adjacent to the Work is not allowed unless indicated otherwise in the Contract Documents. Conduct the Work with minimum interference to vehicular and pedestrian traffic.
   3. Provide temporary barriers, lighting, sidewalk sheds, and other necessary protection.
   4. Repair damage to facilities that are to remain.

C. Existing Utilities: In addition to requirements of the General Conditions, Supplementary Conditions, and Division 01 Specifications, do the following:
   1. Should uncharted or incorrectly charted Underground Facilities be encountered, CONTRACTOR responsibilities shall be in accordance with the General Conditions as may be modified by the Supplementary Conditions. Cooperate with utility owners in keeping adjacent services and facilities in operation.
   2. Sanitary Sewer: Before proceeding with demolition, locate and cap all sewer lines and service laterals discharging from the building or structure being demolished.
   3. Storm Water: Existing storm water system shall remain in place until demolitions of existing building or structure is completed. Upon completing demolition, cut and cap storm sewer laterals at locations shown on the Drawings. Remove existing storm water piping and related structures between points of cutting, and backfill, restore to grade, and stabilize the area over the removed facilities.

4. Water Piping: Before proceeding with demolition, locate and cap all potable and non-potable waterlines and service laterals serving the building or structure being demolished.
5. Other Utilities: Before proceeding with demolition, locate and cap as required all other utilities, such as fuel and gas; heating, ventilating, and air conditioning; electric; and communications; and service laterals serving the building or structure being demolished.
6. Shutdown of utility services shall be coordinated by CONTRACTOR, assisted by DEPARTMENT as required relative to contacting utility owners.

3.2 DEMOLITION – GENERAL

A. Locate construction equipment used for demolition work and remove demolished materials and equipment to avoid imposing excessive loading on supporting and adjacent walls, floors, framing, facilities, and Underground Facilities.

B. Pollution Controls:
1. Use water sprinkling, temporary enclosures, and other suitable methods to limit emissions of dust and dirt to lowest practical level. Comply with Section 01 57 05, Temporary Utilities and Controls, and Laws and Regulations.
2. Do not use water when water may create hazardous or objectionable conditions such as icing, flooding, or pollution.
3. Clean adjacent structures, facilities, properties, and improvements of dust, dirt, and debris caused by demolition Work.

C. Explosives:
1. Do not bring explosives to the Site or use explosives.
2. Due to the presumption of ACM present within the structures to be demolished, blasting is not allowed.

D. Building or Structure Demolition:
1. Unless otherwise approved by ENGINEER, proceed with demolition systematically from the top of the Incinerator Stack, Abandon Pump House or Structures to the ground. The demolition debris/materials shall not be thrown to the ground. They shall be gradually lowered to the ground to avoid the emissions of fugitive dust.
2. All existing foundations and slabs-on-grade associated with the Incinerator Stack or the Abandon Pump House shall remain in place. These structures shall be buried and covered with the ET Cover System as a part of the grading plan shown on the Contract Drawings.
3. Following the completion of the demolition, all demolition debris shall loaded into plastic-lined trailers in compliance with 12 NYCRR 56-11.5 and transported to an appropriately licensed landfill.

E. Demolition of Site Improvements:
3. Manholes, Vaults, and Chambers not associated with the Incinerator Stack or the Abandon Pump House: are not to be demolished and are to remain onsite.

All existing manholes that are within the Onida County Right Of Way are to remain and shall be protected from damage at all times.

3.3 STRUCTURAL REMOVALS

A. Remove structures to lines and grades shown or indicated, unless otherwise directed by ENGINEER.

B. Recycling and Reuse of Demolition Materials:
   1. All concrete, brick, tile, masonry, roofing materials, reinforcing steel, structural metals, miscellaneous metals, plaster, wire mesh, and other items associated with the incinerator stack or the abandon pumphouse to be demolished shall be removed and disposed as asbestos-containing materials in accordance with 12 NYCRR 56-11.5.

3.4 ELECTRICAL REMOVALS

A. Electrical demolition Work includes removing existing transformers, distribution switchboards, control panels, motors, starters, conduit and raceways, cabling, poles and overhead cabling, panelboards, lighting fixtures, switches, and miscellaneous electrical equipment, as shown, specified, or required.

B. Remove existing electrical equipment and fixtures to avoid damaging systems to remain, to keep existing systems in operation, and to maintain integrity of grounding systems.

C. Remove or modify motor control centers and switchgear as shown or indicated. Modified openings shall be cut square and dressed smooth to dimensions required for installation of equipment.

D. Cables in conduits to be removed shall be removed back to the power source or control panel, unless otherwise shown or indicated. Verify the function of each cable before disconnecting and removing.

E. Conduits, raceways, and cabling shall be removed where shown or indicated. Abandoned conduits concealed in floor, ceiling slabs, or in walls shall be cut flush with the slab or wall (as applicable) at point of entrance, suitably capped, and the area repaired in a flush, smooth manner acceptable to ENGINEER. Exposed conduits, junction boxes, other electrical appurtenances, and their supports shall be disassembled and removed. Repair all areas of the Work to prevent rusting on exposed surfaces.

F. Conduits in Underground Facilities not scheduled for reuse shall be suitably capped watertight where each enters building or structure to remain.

G. Where shown or indicated, remove direct burial cable. Openings in buildings for entrance of direct burial cable shall be patched with repair mortar or other material approved by ENGINEER for this purpose and made watertight.

H. Existing poles and overhead cables shall be removed or abandoned as shown and specified. Existing substation(s) and poles owned by electric utility will be removed by the electric utility. Completely remove from the Site poles not owned by electric utility and shown or indicated for removal. Make necessary arrangements with electric utility for removal of utility company's transformers and metering equipment after new electrical system has been installed and energized.

I. Lighting fixtures, wall switches, receptacles, starters, and other miscellaneous electrical equipment, not designated as remaining as DEPARTMENT's property, shall be removed and properly disposed off-Site as required.

3.5 DEMOLITION DEBRIS

A. All demolition debris, waste, rubbish, and material resulting from the demolition operations shall be removed and disposed as asbestos-containing materials in accordance with 12 NYCRR 56-11.5.

+ + END OF SECTION + +

SECTION 02 51 41

OFF-SITE TRANSPORTATION AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes procedures to transport and dispose all items specified for off-site disposal.

B. CONTRACTOR generated hazardous waste shall be confined to contamination reduction or exclusion zones until transported off-site for proper disposal.

C. Remedial work which generates hazardous waste from inactive hazardous waste disposal sites (defined at 27-1301 of the Environmental Conservation Law) are not subject to the special assessment "tax" because of the exemption found at 27-0923 (3) (c) of the Environmental Conservation Law. The CONTRACTOR remains responsible for paying any local and county taxes which might be applicable to the disposal of wastes from the remedial work.

1.2 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the 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. Codes, Rules, and Regulations of the State of New York (NYCRR):
      a. 6 NYCRR Part 364 Waste Transportation Permits.
      b. 6 NYCRR Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities.

1.3 SUBMITTALS

A. Transportation Plan:
   1. Submit six copies of a detailed Transportation Plan as part of the Remedial Action Work Plan in accordance with Section 01 33 00, Submittal Procedures.
   2. The Transportation Plan must be approved before materials are transported off site.

B. Records:
   1. Written acceptance of waste profile from TSDF.
   2. Hazardous Waste Manifests.

3. Decontamination Certificates.
4. Submit written confirmation from TSDF of acceptance of waste.
5. Profile sampling results.
6. Manifests after permanent disposal.
7. Certificates of disposal for non-hazardous waste.
8. Signed bills of lading for salvaged or recycled materials.
9. An updated waste tracking summary shall be provided on a monthly basis with the CONTRACTOR's application of payment.

1.4 PERMITS AND REGULATIONS

A. Comply with all municipal, county, state, and federal regulations regarding transportation of hazardous and non-hazardous materials. These include:
   1. Trucks used for transportation of material for disposal off site shall be permitted pursuant to 6 NYCRR Part 364**.**
   2. Vehicle operator possession of a commercial driver's license with hazardous materials endorsement (if applicable).
   3. Registration of vehicle as a hazardous waste carrier (if applicable).
   4. Utilization of shipping papers or hazardous waste manifest (40 CFR 262 and 6 NYCRR Part 372).
   5. Proper marking and placarding of vehicles in accordance with 49 CFR.
   6. Placement of emergency response procedures and emergency telephone numbers in vehicle, and operator familiarity with emergency response procedures.
   7. Compliance with load, height, and weight regulations.

1.5 DISPOSAL FACILITIES

A. Site is located in Oneida County which is within the is in the service are of the Oneida-Herkimer Solid Waste Authority (OHSWA) that has enacted flow control. As a result, OHSWA will be the facility of disposal for all non-hazardous wastes unless OHSWA provides written exemption. Any such exemption would be the responsibly of the CONTRACTOR to obtain. CONTRACTOR shall coordinate all material disposal requirements with OHSWA in accordance with their operating requirements (i.e. maximum tonnage per day, allowable disposal days, required material sizing, prohibited waste removal or exemptions, etc.) at no additional cost to the DEPARTMENT.

B. Facilities must have valid Federal/State permits appropriate for each type of waste and/or waste disposal facility. Permits shall remain valid during the entire project period.

C. Facilities must be in good legal standing with no significant violations, corrective actions, or other environmental conditions that could affect satisfactory operation.

D. The disposal facility must comply with policies adopted by the DEPARTMENT with respect to off-site disposal of waste.

E. 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.

F. RCRA Wastes:
   1. The facility must have an RCRA Permit or RCRA Interim Status for RCRA wastes. The EPA ID number for the site is: NYD980509343.
   2. The facility must not have any significant RCRA violations or other environmental conditions that could affect its satisfactory operation:
      a. Significant violations include Class 1 RCRA violations as defined in EPA"s RCRA Enforcement Response Policy dated December 1984, including but not limited to groundwater, closure, post closure, and financial violations.
      b. Other environmental conditions include those conditions affecting the satisfactory operation of the facility and violations of state and/or federal laws other than RCRA.
      c. Under limited circumstances, EPA Administrator may allow disposal of hazardous substances at a RCRA facility having significant RCRA violations or other environmental conditions affecting satisfactory operation, providing that the facility owner or operator has entered into a consent order or decree to correct the problems, and disposal only occurs within the facility at a new or existing unit that is in compliance with RCRA requirements.
   3. Landfill disposal must be in a unit meeting applicable RCRA minimum technical requirements:
      a. Current RCRA minimum technical requirements for land disposal include the use of a double liner system.
      b. Under limited circumstances (low waste toxicity, mobility, and persistence), EPA may approve the use of a single-lined land disposal unit for RCRA wastes where use of such a unit adequately protects public health and the environment.

G. TSCA Wastes:
   1. The facility must have a current TSCA permit.
   2. The facility must not have any significant violations, corrective actions, or other environmental conditions that could affect its satisfactory operation.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Equipment supplied shall be in good repair and good working condition.

B. Haul trucks that have visible oil or hydraulic fluid leaks will not be allowed on site.

C. Clean up oil or hydraulic fluid spills.

2.2 TRANSPORTATION

A. Submit a Transportation Plan as part of the Remedial Action Work Plan which includes:
   1. Type, condition, and average daily number of vehicles to be used.
   2. Travel routes and time restrictions.
   3. Decontamination methods for vehicles, equipment, and containers.
   4. Emergency response plan.
   5. A list of all shippers and their federal and state transporter ID numbers.
   6. A list of proposed disposal facilities including name, address, telephone number, contact name, and Federal/state permit numbers.

PART 3 - EXECUTION

3.1 VEHICLE LOADING AND DECONTAMINATION

A. General:
   1. The CONTRACTOR shall provide all equipment, personnel, and facilities necessary to load waste materials in accordance with the regulatory requirements listed herein, and in accordance with the regulations of those states through which the CONTRACTOR plans to transport materials.
   2. Vehicle operators shall be trained in conformance with federal and state regulations for waste haulers (hazardous, special, and non-hazardous).
   3. All vehicles hauling waste materials from the exclusion zone shall be decontaminated in the contamination reduction zone prior to leaving the site.
   4. A written decontamination certification shall be provided to the ENGINEER for each shipment stating that:
      a. No soil from the exclusion zone or the contamination reduction zone adheres to the vehicle (including tires and undercarriage).
      b. The vehicles are not leaking materials or dripping liquids in any amount.
      c. 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.

3.2 MEASUREMENT

A. Upon entering and leaving the site, the transport vehicle shall be weighed on a certified scale under the ENGINEER'S supervision to determine the amount of material being removed from the site.

B. A printed ticket with the time, date, and net weight of material being transported for disposal shall be obtained. A copy of this ticket shall be given directly to the ENGINEER as it is produced.

C. Measured gross weight of the vehicle or calculated net weight of material outside the certified capacity of the scale will not be accepted by the ENGINEER and the

CONTRACTOR shall not be reimbursed for the associated costs of material disposal above the certified capacity of scale.

D. The CONTRACTOR shall off-load materials above the certified capacity of scale on site at no additional cost to the DEPARTMENT**.**

3.3 MANIFESTING

A. Complete all required manifest forms and bill of lading forms for the DEPARTMENT for proper transportation and disposal of all materials. The EPA ID number for the site is: NYD002233138.

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 manifest 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 accordance with all EPA, DOT, 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.

3.4 TRANSPORTATION

A. Prior to shipment of hazardous wastes off the project area, 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 written permission is received from the ENGINEER to do otherwise.

3.5 SAMPLING

A. Perform all sampling and analyses required by the disposal facility at no additional cost to the DEPARTMENT.

B. Provide copies of the results to the ENGINEER**.**

3.6 REPORTING

A. Manifests:
   1. After the waste has been permanently disposed of, the Hazardous Waste Manifests shall be completed in accordance with 6 NYCRR Part 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 TSD facility to determine the status of the HTW 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 EPA and NYSDEC if he has not received a completed copy of the manifest from the designated TSD facility with 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. Bill 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 02 82 33

REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIAL

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide all labor, equipment, tools, materials, notifications, and permits required to remove and dispose of asbestos-containing material (ACM) specified, or required to complete the Work, in accordance with Laws and Regulations. ACM identified at the Site is indicated in the reports on a hazardous environmental condition at the Site. ENGINEER to prepare petition for variance at the Type III buildings. CONTRACTOR to provide information as necessary to support this effort.
   2. CONTRACTOR shall remove all ACM in materials and equipment to be demolished or removed in Type II and Type III structures as part of the Work, in accordance with this Specification Section, related work specified under other Sections, and Laws and Regulations.
   3. Perform removal and disposal of ACM, including preparation, removal, cleaning, storage, transport, and disposal of ACM without damaging or contaminating adjacent work areas. Where such work areas are damaged or contaminated, CONTRACTOR shall restore the work areas to their original condition.
   4. CONTRACTOR shall be responsible for the safe and proper handling of friable and non-friable materials containing or contaminated with Asbestos, and take all necessary precautions to protect workers, work areas, and others at the Site from contact with Asbestos fibers, whether airborne or otherwise.

B. Coordination:
   1. ENGINEER to prepare and provide CONTRACTOR with the variance to complete the work.
   2. Coordinate and review subsequent demolition work specified under other Sections and coordinate such work with the Work under this Section.
   3. Notify other contractors in advance of removing and disposing of ACM, to provide other contractors with sufficient time for coordination of interrelated items that are included in their Contracts and are to be performed before or in conjunction with removal and disposal of ACM.

C. Measurement and Payment:
   1. Payment for removal and disposal of ACM as shown or indicated in the Contract Documents shall be made as part of the Unit Price per ton.

1.2 REFERENCES

A. Comply with applicable provisions and recommendations of the following, except where otherwise shown or specified:

1. New York State 12 NYCRR Part 56, Part 56 of Title 12 of the Official Complication of Codes, Rules and Regulations of the State of New York.
2. ANSI/AIHA Z9.2, Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems.
3. ANSI/ISEA Z87.1, Occupational and Educational Eye and Protection Devices.
4. ANSI Z88.2, Respiratory Protection.
5. ASTM D4397, Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications.
6. ASTM E84, Test Method for Surface Burning Characteristics of Building Materials.
7. ASTM E119, Test Methods for Fire Tests of Building Construction and Materials.
8. ASTM E1368, Practice for Visual Inspection of Asbestos Abatement Projects.
9. NFPA 10, Portable Fire Extinguishers.
10. NFPA 90A, Installation of Air Conditioning and Ventilating Systems.
11. NFPA 101, Life Safety Code.
12. NFPA 701, Methods of Fire Tests for Flame Propagation of Textiles and Films.
13. NIOSH NMAM, NIOSH Manual of Analytical Methods.
14. UL 586, High-Efficiency, Particulate, Air Filter Units.
15. USEPA 340/1-90-018, Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance.
16. USEPA 340/1-90-019, Asbestos/NESHAP Adequately Wet Guidance.
17. USEPA 560/5-85-024, Guidance for Controlling Asbestos Containing Materials in Building.

1.3 TERMINOLOGY

A. The following words or terms are not defined but, when used in this Section, have the following meaning:
   1. "Adequately wet": A term as defined in 40 CFR Part 61, Subpart M and USEPA 340/1-90-019 that means to sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.
   2. "Amended water": Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D1331.
   3. "Area air monitoring": Sampling of Asbestos fiber concentrations within the Asbestos control area and outside of the Asbestos control area, which is representative of the airborne concentrations of Asbestos fibers that may reach the breathing zone.
   4. "Asbestos": any naturally occurring hydrated mineral silicate separable into commercially usable fibers, including chrysotile, amosite, crocidolite, tremolite, anthophyllite and actinolite.
   5. "Asbestos-containing material" or "ACM": Material composed of Asbestos of any type in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous materials, as determined using the

method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy.

6. "Asbestos control area": An area where Asbestos removal operations are performed which is isolated by physical boundaries to prevent the spread of Asbestos dust, fibers, and debris.
7. "Class I Asbestos Work": Activities involving the removal of thermal systems insulation, surfacing ACM and PACM.
8. "Class II Asbestos Work": Means activities involving the removal of ACM, that is not thermal system insulation or surfacing material. Class II includes, but is not limited to, removal of Asbestos-containing wallboard, floor tile, and sheeting, roofing and siding shingles, and construction mastics.
9. "Class III Asbestos Work": Means repair and maintenance operations, where ACM, including TSI and surfacing ACM and PACM, may be disturbed.
10. "Class IV Asbestos Work": Means maintenance and custodial activities during which employees contact but do not disturb ACM and PACM and activities to clean up dust, waste, and debris resulting from Class I, II, and III Asbestos Work.
11. "Competent person": In addition to the definition in 29 CFR 1926.32(f), one who is capable of identifying existing Asbestos hazards in the workplace and selecting the appropriate control strategy for Asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f). In addition, for Class I and Class II Asbestos Work, one who is specially trained in a training course that complies with the criteria of USEPA's Model Accreditation Plan (40 CFR 763) for supervisor, or its equivalent; for Class II Asbestos roofing Work who is specially trained in a comprehensive course for the roofing trade that has been conducted by a USEPA or state-approved trainer, certified by the USEPA or MDCIS; and for Class II and IV Asbestos Work, who is trained in an operations and maintenance (O&M) course developed by USEPA under 40 CFR 763.92 (a)(2).
12. "Controlled demolition": CONTRACTOR operations or activities abiding by the Asbestos control protocols of the Contract Documents. Such operations or activities include those that have the potential to disturb Asbestos-containing materials.
13. "Encapsulant": An agent that seals the surface (bridging encapsulant) or penetrates the bulk (penetrating encapsulant) of ACM.
14. "Excursion limit": No person at any time, shall be exposed to airborne concentrations of Asbestos fibers that are equal to or greater than 1.0 fibers per cubic centimeter of air (cm^3), averaged over a 30-minute time weighted average.
15. "Friable Asbestos": As defined in 40 CFR Part 61, Subpart M and USEPA 340/1-90-018, meaning any and all ACM that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure, including previously non-friable material that becomes damaged to the extent that when dry, may be easily crumbled, pulverized, or reduced to powder by hand pressure.
16. "HEPA filter": A high-efficiency particulate air filter capable of removing particles 0.3 microns or larger in diameter with 99.97 percent efficiency.
17. "Negative pressure enclosure" or "NPE": An Asbestos abatement regulated area in which critical barriers, polyethylene sheeting walls and floor are

installed and sealed air-tight. A minimum pressure differential of minus 0.02 inches of water column relative to adjacent unsealed areas and four air charges per hour shall be maintained within the NPE continuously 24 hours per day.

18. "Non-friable Asbestos": As defined in CFR 40 Part 61, Subpart M and USEPA 340/1-90-018 that means Asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products.
19. "Non-Friable ACM Category I": As defined in CFR 40 Part 61, Subpart M and USEPA 340/1-90-018 that means ACM material, excluding Category 1 non-friable ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
20. "Personal air monitoring": Sampling of Asbestos fiber concentrations within the breathing zone of a person to establish OSHA PEL values.
21. "Permissible exposure limit" or "PEL": No person shall be exposed to airborne concentrations of Asbestos fibers that are equal to or greater than 0.1 fibers per cubic centimeter of air (cm^3), averaged over an eight-hour time weighted average.
22. "Presumed ACM" or "PACM": Presumed ACM that is thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of a material as "PACM" may be rebutted pursuant to paragraph (k)(4) of 29 CFR 1926.1101.
23. "Regulated area": Area established by the employer to demarcate areas where Class I, II, and III Asbestos Work is conducted, and adjoining area(s) where debris and waste from such Asbestos Work accumulate; and a work area within which airborne concentrations of Asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit. Requirements for regulated areas are in paragraph (e)(6) of 29 CFR 1926.1101.
24. "Time weighted average" or "TWA": The average concentration of a contaminant in the air during a specific time period.
25. "Thermal system insulation" or "TSI": ACM applied to piping, valves, boilers, breaching, tanks, ducts or other equipment or structural components to prevent heat loss or gain. TSI ACM is thermal system insulation which contains more than one percent Asbestos.
26. "Type II Structure": Building structure or foundation that contains PACM. PACM confirmed as ACM in this structure or foundation must be abated in place as Class I or Class II asbestos work in accordance with 12 NYCRR 56.
27. "Type III Structure": Formerly condemned building structure or foundation that contains PACM. PACM confirmed ACM in this structure or foundation must be treated as controlled demolition in accordance with 12 NYCRR 56.

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. Testing Laboratory:
      a. Testing laboratory shall be experienced with inspection of and testing and evaluation for ACM and shall be licensed for Asbestos work in the jurisdiction where the Project is located.
      b. Testing laboratory shall be AIHA- and NVLAP-accredited, and shall use ELAP 198.4, and NIOSH 7400 and PAT methodologies.
      c. Submit name, address, phone number, and website address for testing

laboratory, including copies of associated certifications of laboratory by accrediting agencies.

2. ACM Removal and Disposal Subcontractor:
   a. ACM removal and disposal Subcontractor engaging in asbestos removal and disposal shall be certified in accordance with New York State 12 NYCRR Part 56.
   b. Subcontractor shall have successfully completed at least three projects of comparable size and scope as the ACM removal and disposal Work on this Project within the past three years.
   c. Submit Subcontractor qualifications including listing of completed past Asbestos removal and disposal projects, and current, ongoing projects, with the following submitted for each such project: name, address, and phone number for responsible individual of owner of facility, type of facility, name, address, and phone number of prime contractor that hired Subcontractor (as applicable) with name of the competent person in responsible charge of the work for that CONTRACTOR, volume of ACM removed, and approximate value of the ACM removal and disposal work for which Subcontractor was responsible.
   d. Competent Person:
      1) Subcontractor shall have on staff as a full-time employee and shall assign to the Project a competent person with not less than three years experience in removing and disposing of ACM, and who has at least five years experience in construction trades, and who has served as the competent person in responsible charge of not less than three ACM removal and disposal projects of comparable scope (or larger) and methodology to this Project. Submit the name of the proposed person and proof of training as a supervisor for Asbestos-related work.
      2) The competent person, having qualifications and authority to ensure worker health and safety required by Subpart C, General Safety and Health Provisions for Construction (29 CFR 1926.20 through 1926.32). Competent person shall conduct frequent and regular inspections of the Site relative to Asbestos removal and disposal, materials, and equipment as required by 29 CFR Part 1926, Section 1926.20 and as described below.
      3) The Competent Person shall perform or supervise the following duties, as applicable:
         a) Set up the regulated area, enclosure, or other containment.
         b) Supervise all employee exposure monitoring.
         c) Ensure that employees working within the regulated area wear protective clothing and respiratory protection.
         d) Ensure through Site supervision, that employees use work practices and personal protective equipment in compliance with all requirements.
         e) Ensure that employees use the hygiene facilities and observe the decontamination procedures.

4) The competent person shall be trained in all aspects of Asbestos removal and handling, including: abatement, installation, removal and handling; the contents of Laws and Regulations and the Contract Documents; identification of Asbestos; removal procedures, where appropriate; and other practices for reducing the hazard. Such training shall be obtained in a comprehensive course for supervisors, such as a course conducted by a USEPA or state-approved training provider, certified by the USEPA or the jurisdiction where the Project is located, or a course equivalent in stringency, content, and length.

e. ACM Subcontractor Employees:

1) Each employee working on Asbestos removal and disposal in the State of New York shall possess valid Asbestos handling certification.
2) Within one year prior to commencement of ACM removal and disposal Work on the Project, each worker directly involved in handling ACM and ACM generated wastes, including packaging and transporting such wastes for disposal, shall have successfully completed a course of Asbestos training as required by USEPA revised Asbestos Model Accreditation Plan (MAP), as mandated by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA).
3) Prior to the commencement of ACM removal and disposal Work, each worker shall be instructed by CONTRACTOR's CIH and CONTRACTOR's "competent person" supervisor in the following Project-specific training: Hazards and health effects of the specific types of ACM to be removed; content and requirements of the AHAP accepted by ENGINEER; work practices; the use requirements and limitations of the personal protective clothing, equipment, and respirators to be used; hands-on training for each Asbestos removal and disposal technique to be employed; heat and cold stress monitoring specific to this Project; personal hygiene and housekeeping requirements; air monitoring procedures; and additional requirements of 29 CFR Part 1926.1101.
4) Maintain all employee training records for one year beyond the last date of employee's employment by that employer. Use of competent organizations such as industry trade associations and employee associations to maintain the records required by this Section is acceptable. Copy of the required training records and fit test certificates for each employee shall be maintained on file at the Site for review as requested by DEPARTMENT.
5) ACM removal and disposal Subcontractor shall furnish for the Project a sufficient number of properly-trained and experienced Asbestos removal and disposal workers each of whom shall: have completed training as an Asbestos removal worker; have at least one year experience in asbestos removal; and have worked on at least three projects of comparable scope to (or larger than) this Project.
6) Submit employee qualifications and certifications.

7) Prior assigning personnel to Asbestos Work, instruct each employee in the hazards of Asbestos, safety, and health precautions, as well as the use and requirements for personal protective equipment, including clothing and respirators. Training shall cover engineering and other hazard control techniques and procedures. Establish a respirator program as required by Laws and Regulations.

3. Certified Industrial Hygienist (CIH):
   a. ACM removal and disposal operations shall be under the oversight of a CIH. CIH shall have at least five years of experience with ACM removal and disposal on projects similar in size to, or larger than, this Project.
   b. CIH shall be accredited by the American Board of Industrial Hygiene (ABIH).
   c. CIH Responsibilities:
      1) Assist Subcontractor with preparing the Asbestos removal and disposal plan submittal. CIH shall sign and date the submittal.
      2) Prepare protocols and procedures for, and review with Subcontractor and testing laboratory, the field quality control measures required for the Project.
      3) Review field quality control results and advise CONTRACTOR and Subcontractor on measures to be taken.
      4) CIH shall visit the Site not less than weekly during ACM removal and disposal Work and shall inspect the Asbestos control areas and related ACM facilities prior to the start of ACM removal operations and shall also inspect the ACM control areas and adjacent areas upon completion of all ACM removal and disposal Work. Prepare and submit to ENGINEER a written report of each visit to the Site by CIH detailing actives observed, problems encountered, and recommended procedures to resolve problems.
   d. Submit proposed CIH's name, address, and telephone number, and record of CIH's experience relative to ACM removal and disposal and copy of accreditation from ABIH.

B. Regulatory Requirements:
   1. Comply with Laws and Regulations regarding Asbestos removal and disposal, including but not limited to the USEPA, New York State Department of Labor (NYSDOL), and OSHA. Maintain at the Site copies of applicable Laws and Regulations and guidelines, make such documents immediately available to ENGINEER.
   2. Federal Regulations:
      a. 29 CFR 1910.1001, Asbestos Standard for General Industry
      b. 29 CFR 1910.134/ 29 CFR 1926.103 Respiratory Protection Standard
      c. 29 CFR 1910.1200/ 29 CFR 1926.59, Hazard Communication Standard
      d. 29 CFR 1926.1101, Asbestos Standard for the Construction Industry
      e. 40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart M - National Emission Standards for Asbestos
      f. 40 CFR 763, Asbestos Hazard Emergency Response Act (AHERA), Subpart E - Asbestos-Containing Materials in Schools, and Subpart G - Worker Protection Rule.

g. 49 CFR Parts 106 - Transportation Standards 107, 171 to 180.

3. New York State Regulations:
   a. Part 56, Asbestos.
   b. 6 NYCRR Part 360 Solid Waste Management Facilities
   c. 6 NYCRR Part 364 Waste Transporter Permits
   d. 6 NYCRR Parts 370 – 373 Hazardous Waste Management

C. Medical Requirements
   1. Examinations: Before anticipated exposure to airborne Asbestos fibers, provide workers with a comprehensive medical examination as required by 29 CFR 1926.1101, 29 CFR 1910.120, and other Laws and Regulations. Examination is not required if adequate records demonstrate that employee was examined in accordance with 29 CFR 1926.1101, 29 CFR 1910.120, and other Laws and Regulations within the past year. The same medical examination shall be given on an annual basis to employees engaged in an occupation that has the potential to expose the employee to Asbestos in any amount, within 30 calendar days before and after the termination of employment in such an occupation.
   2. Medical Records: Maintain complete and accurate records of each employee's medical examinations for a period of 30 years after termination of employment.

1.5 SUBMITTALS

A. Informational Submittals: Submit the following:
   1. Certificates.
      a. Certifications from authorities having jurisdiction, including state and local authorities as applicable, for each supervisor and worker employed on ACM removal and disposal.
      b. Submit certificate for each employee working on ACM removal and disposal Work, said certificate to be signed by the associated employee, that the employee has received training in the proper handling of materials that contain Asbestos; understands the health implications and risks involved, including the possible illnesses that may develop from exposure to Asbestos fibers; understands the use and limitations of the respiratory equipment to be used; and understands the results of any air monitoring activities that will occur, in relation to his or her health and use of respiratory equipment.
   2. Test and Evaluation Reports:
      a. Asbestos survey thoroughly inspecting for and identifying all presumed asbestos containing material, suspect ACM, or asbestos material throughout the buildings to be demolished in accordance with 12 NYCRR 56 Subpart 56-5.
   3. Procedural Submittals:
      a. Asbestos Removal and Disposal Plan (Asbestos Hazard Abatement Plan (AHAP)):
         1) Submit a detailed Project-specific plan of the work procedures to be used in the removal and disposal of ACM. Submittal shall be prepared by, signed, and sealed including certification number, and dated by CONTRACTOR's certified industrial hygienist (CIH).
         2) Submittal shall include: a floor plan diagram showing the boundaries

of Asbestos control areas, locations of decontamination facilities and HEPA filtration unit exhausts; locations of temporary electrical panels and hookups; the sequencing of Asbestos-related Work; ACM disposal plan; the type of wetting agent and Asbestos encapsulant proposed for use; air monitoring (both area and personal); and detailed description of the ACM containment and removal procedures to be used, type of wetting agent and Asbestos encapsulant to be used, planned air monitoring strategies, and detailed description of the method to be employed to control spread of ACM wastes and airborne fiber concentrations.

3) Any specific asbestos variances that have been obtained for the completion of the work and the conditions of said variances shall be incorporated into the AHAP.
4) Current and valid medical examinations and respirator fit-tests for each person employed in ACM removal and disposal operations.
5) Copy of each Project permit relative to ACM, and variances (if any).
6) Asbestos removal and disposal plan shall clearly indicate the starting and completion dates for each activity and each Asbestos control area, and shall allow adequate time for clean-up, observation, and monitoring activities.
7) Transporter: Submit documentation that the transporter to be used for conveying ACM to the landfill is permitted for such services in the jurisdiction where the Project is located.
8) Landfill: Submit documentation that the landfill to be used for ACM disposal is approved and permitted for Asbestos disposal by the USEPA and other authorities having jurisdiction, including the state environmental authority.
9) Notarized Statement: Submit signed notarized statements from CONTRACTOR and ACM Subcontractor disclosing all OSHA and USEPA citations on Asbestos removal projects during the previous three years.
10) Obtain ENGINEER's acceptance of the plan prior to starting of Asbestos-related work activities, other than performing testing and evaluation report.

4 Field Quality Control Submittals:
   a. Reports of visits to Site by CIH.
   b. Report of initial air monitoring results prior to start of ACM removal Work, and daily air monitoring results and calibration data.

5. Qualifications Statements: Obtain ENGINEER's acceptance of qualifications prior to utilizing the following on the Project:
   a. Testing laboratory.
   b. ACM removal and disposal Subcontractor, including name and qualifications of competent person to be assigned to the Project.
   c. Certified industrial hygienist.

B. Closeout Submittals: Submit the following:
   1. Log:
      a. Maintain a permanently-bound log book that contains the Project name, as well as the names, addresses, and phone numbers of the air testing

entity, and the ACM Subcontractor. Log book shall contain emergency contact information required in the General Requirements. Log book shall contain a list of personnel approved for entry into the Asbestos control area. Upon completion of ACM removal and disposal Work, submit the log book containing a day-to-day record of personnel entering the Asbestos control area, and description of significant events occurring during the ACM removal and disposal operations.

2. Record Information:
   a. Certification of completion of ACM removal and disposal Work, signed by CONTRACTOR and ACM Subcontractor, indicating the date that all ACM removal and disposal Work was completed, and stating that all ACM removal and disposal Work was performed in accordance with the Contract Documents, Laws and Regulations, applicable permits (if any), and requirements of authorities having jurisdiction.
   b. Quantities of ACM removed and disposed.
   c. Copy of completed waste manifest sheet for disposal of Asbestos, indicating name of disposal location and date of disposal.
   d. Asbestos Waste Shipment: Final completed copies of the Waste Shipment Record for all shipments of ACM waste material as specified in 40 CFR Part 61, Subpart M and other required state waste manifest shipment records. Detailed information of Asbestos waste disposal on the "MANDATORY WASTE SHIPMENT RECORD" form in accordance with revised 40 CFR Part 61, Subpart M.
   e. Copy of notifications of USEPA and other authorities having jurisdiction.

PART 2 – PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT

A. General:
   1. Provide workers with personal protective clothing and equipment as specified in this Section and as required by Laws and Regulations.
   2. Ensure that protective clothing and equipment is worn properly.
   3. CIH and competent person shall select and approve the required personal protective clothing and equipment to be used.
   4. In addition to protective work clothing for ACM removal workers, make available at the Site four additional sets of protective work clothing and required respiratory equipment, each day for authorized personnel to enter and observe the Asbestos control area.

B. Respirators:
   1. Respirators shall be selected and used in accordance with manufacturer's recommendations, 29 CFR Part 1926.1101, and shall be approved by NIOSH for use in environments containing airborne Asbestos fibers.
   2. Personnel who handle ACM, enter Asbestos regulated work areas that require wearing of a respirator, or who are otherwise carrying out Asbestos abatement activities that require wearing a respirator, shall be provided with respirators

that are fully protective of the worker at measured or anticipated airborne Asbestos concentration level to be encountered.

3. For air-purifying respirators, the particulate filter portion of the cartridges or canister suitable for use in airborne Asbestos environments shall be Type H, high-efficiency particulate air (HEPA). As a minimum a powered-air purifying respirator (PAPR) equipped with HEPA cartridges shall be worn during startup of Asbestos removal activities, unless otherwise approved in writing by the CIH.
4. Upgrading or downgrading of respirator type, from the minimum requirements specified for start-up, shall be made by the CIH based on the measured or airborne Asbestos fiber concentrations to be encountered.
5. Respiratory protection shall comply with 29 CFR Part 1926, CFR 11 Part 30, and 29 CFR Part 1910.
6. Fit Test:
    a. Competent person shall perform qualitative or quantitative fit test complying with 29 CFR Part 1926, Appendix B, for each worker required to wear a respirator, and for DEPARTMENT and authorized visitors who enter an Asbestos regulated work area where respirators are required to be worn.
    b. Perform respirator fit test for each worker prior to initially wearing a respirator on the Project and annually thereafter. If physical changes in a worker develops that will affect the fit, or a new size, make, or model of respirator is used, perform a new fit test.
    c. Perform functional fit checks by employees each time a respirator is put on and in accordance with the respirator manufacturer's recommendation.

C. Whole Body Protection:
1. Provide personnel exposed to Asbestos with whole body protection as specified in this Section; such protection shall be worn properly.
2. CIH and competent person shall select and approve the whole body protection to be used.
3. Dispose of disposable whole body protection as Asbestos-contaminated waste upon exiting from the Asbestos regulated work area. Reusable whole body protection worn shall be either disposed of as Asbestos-contaminated waste upon exiting the Asbestos regulated work area or be properly laundered in accordance with 29 CFR Part 1926 and the AHAP accepted by ENGINEER.
4. Do not remove Asbestos abatement whole body protection from the Site.
5. Comply with the following:
    a. Coveralls: Use disposable, zippered front coveralls with attached head and foot coverings. Sleeves shall be secured at the wrists.
    b. Gloves: Use disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort but shall not be used alone. Where there is potential for hand injuries (such as scrapes, punctures, cuts) use suitable outer gloves.
    c. Under Clothing: Use disposable underwear, worn next to the skin or cloth under clothing.
    d. Work Clothing: Use an additional coverall when Asbestos abatement and control method employed does not provide for the exit from the Asbestos regulated work area directly into an attached decontamination unit. Cloth

work clothes shall be provided for wear under the protective coverall and foot coverings when work is being conducted in low-temperature conditions. Cloth work clothes shall be either disposed of as Asbestos-contaminated material or properly laundered in accordance with 29 CFR Part 1926 and AHAP accepted by ENGINEER.

e. Foot Coverings: Provide cloth socks, worn next to the skin. If rubber boots are not used, provide footwear and disposable foot coverings. Use rubber boots in moist or wet areas. Only rubber boots shall be removed from the Asbestos regulated work area after being thoroughly decontaminated. Dispose of other protective foot coverings as ACM.

f. Head Covering: Use hood type disposable head covering. Provide and use protective head gear (hard hats) as required. Remove hard hats from the Asbestos regulated work area only after thorough decontamination.

g. Protective Eye Wear: Do not wear contact lenses in Asbestos regulated work areas. When vision correction is necessary to perform the Work, use prescription safety eye wear. Safety glasses shall be worn by personnel engaged in Asbestos abatement activities in the Asbestos regulated work area when use of full face-piece respirator is not required. Eye protection provided shall be in accordance with ANSI Z87.1. Remove eyewear from Asbestos regulated work area only after thorough decontamination.

h. Other Items: Provide other items of whole body protection as required and approved by the CIH.

2.2 DECONTAMINATION

A. Decontamination Units – General:
   1. Provide temporary decontamination unit for all Class I Asbestos Work abatement activities in which greater than 25 linear feet or 10 square feet of ACM are removed from a regulated area.
   2. Decontamination units shall be adjacent to and contiguous with the Asbestos regulated area. Remote decontamination units may be used if adjacent decontamination units are not feasible. Use of prefabricated units or remote units shall be reviewed and approved by the CIH. Remote decontamination systems shall be in accordance with Laws and Regulations.
   3. Decontamination unit shall be attached in a leak-tight manner to each Asbestos regulated work area.
   4. Decontamination unit shall have a separate equipment locker room and a clean locker room with a shower in between (complying with 29 CFR Part 1910.141 and other Laws and Regulations).
   5. Upon exiting from the Asbestos regulated work area to the equipment room, respirators shall be worn while Asbestos-contaminated protective clothing is HEPA-vacuumed, removed, and placed in approved labeled containers for disposal.

B. Use of Decontamination Units and Wastewater Discharge:
   1. Workers shall shower before changing into street clothes.

2. Collect and filter used shower water to remove Asbestos contamination. Dispose of filters and residue as Asbestos-contaminated material. Discharge filtered water to the sanitary sewer system or haul filtered water off-Site for proper disposal.
3. Provide separate hot and cold water services for decontamination unit. Provide not less than 40-gallon electric hot water heater with minimum recovery rate of 20 gallons per hour and temperature controller for each showerhead. Instantaneous type in-line water heater may be incorporated at each shower head in lieu of hot water heaters. Locate functional flow and temperature controls within the shower, to be easily adjusted by user.
4. Size shower wastewater pump for 1.25 times the showerhead flow rate at a pressure head sufficient to satisfy the filter head loss and discharge line head losses.
5. Provide wastewater filters in series with first stage pore size of 50 micrometer (microns) and second stage pore size of five microns.

C. Decontamination Unit – Miscellaneous:
1. Keep floor of decontamination unit's clean room dry and clean at all times. Water from the shower shall not wet the floor in the clean room.
2. Surfaces of the clean room and shower shall be wet-wiped two times after each shift change with a disinfectant solution.
3. Maintain proper housekeeping and hygiene.
4. Provide soap, shampoo, and clean towels for showering, washing, and drying in sufficient quantities to accommodate the number of Asbestos abatement workers.
5. Dispose of cloth towels as ACM waste or launder in accordance with 29 CFR Part 1926 and AHAP accepted by ENGINEER.
6. Surfaces of the equipment room shall be wet-wiped two times after each shift change. Dispose of materials used for wet wiping as Asbestos-contaminated waste.

2.3 WARNING SIGNS AND TAPE

A. Warning Signs and Tape:
1. Provide temporary warning signs for Asbestos-related Work.
2. Ensure that workers and others at the Site understand the warning signs.
3. Provide warning signs and tape at the regulated boundaries and entrances to Asbestos regulated work areas. Provide signs at a distance that personnel may read the sign and take necessary protective steps before entering the area.
4. Warning signs shall comply with 29 CFR Part 1926.58(k)(l)(ii).
5. Warning signs shall be written in English, and in the predominant language spoken by the workers if other than English.

2. 4 WARNING LABELS

A. Signs and Markings:
1. Provide temporary caution signs at all approaches to Asbestos control areas as required in 29 CFR 1926.1101 and 29 CFR 1910.1200. Locate signs at such a

distance that personnel may read the signs and avoid the areas, or if allowed to enter the areas, take the necessary precautions before entering.

2. At minimum provide the following temporary signage:
   a. Caution Sign: Vertical format complying with 29 CFR 1910.145 (d) (4), minimum 20 inches by 14 inches displaying the following legend in the lower panel:

Legend	Characters/Type
ASBESTOS	1-inch high Sans Serif Gothic or block
DANGER	1-inch high Sans Serif Gothic or block
CANCER & LUNG DISEASE HAZARD	3/4-inch high Gothic
AUTHORIZED PERSONNEL ONLY	3/4-inch high Gothic
RESPIRATORS & PROTECTIVE CLOTHING REQUIRED IN THIS AREA	3/4-inch high Gothic

3. Warning Labels:
   a. Provide labels affixed to all disposal bags and storage containers, as used for storage and transporting Asbestos materials, scrap, waste debris, and other materials contaminated with Asbestos, in accordance with OSHA 29 CFR 1926.1101(k)(8) and other Laws and Regulations.
   b. Containers with preprinted warning labels complying with requirements specified in this Section are acceptable.
   c. Labels shall include the name, address, and telephone number of the waste generator (DEPARTMENT) and the location at which the waste was generated in accordance with 40 CFR 61.150(a)(1).
   d. Labels shall comply with 29 CFR 1910.1200(f), and shall include:

"DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS FIBERS
IS HAZARDOUS TO YOUR HEALTH"

4. No other signage related to ACM removal is allowed at the Site without approval of the DEPARTMENT.
5. Upon completion of the ACM removal Work, remove temporary signage associated with ACM removal.

2.5 TOOLS AND LOCAL EXHAUST SYSTEM

A. Vacuum Capability for Asbestos Removal Equipment and Tools:
   1. Vacuums shall be leak-proof to the filter, equipped with HEPA filters, of sufficient capacity, and provide necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain ACM waste material.

2. Do not use power tools to remove ACM unless the power tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system.
3. Remove residual Asbestos from reusable tools prior to storage and reuse. Decontaminate reusable tools prior to removal from Asbestos regulated work area in accordance with Laws and Regulations.

B. Local Exhaust System:
1. Provide local exhaust system in NPEs. Local exhaust systems, including filters, shall comply with ANSI/AIHA Z9.2.
2. Air filtration devices shall have HEPA filters.
3. Quantity of air filtration devices shall be sufficient to maintain a minimum pressure differential of minus 0.02 inch of water column relative to adjacent, unsealed areas, at an air flow rate not less than four air changes per hour.
4. Provide continuous, 24-hour per day monitoring of the pressure differential.
5. At start of Asbestos removal operations, open the units to verify filter integrity.
6. Use new flex duct for local exhaust system and one flex duct per HEPA unit.
7. Replace filters for air filtration devices in accordance with manufacturer's recommendations and Laws and Regulations.
8. Obtain required licenses and pay all fees that are associated with existing patent(s) on Asbestos exhaust systems.

2.6 RENTAL EQUIPMENT

A. If rental equipment is used, give written notification to rental entity concerning the intended use of the equipment, the possibility of Asbestos contamination of equipment, and steps that will be taken to decontaminate such equipment. Obtain written acceptance of the terms of CONTRACTOR's notification from rental entity and submit a copy to DEPARTMENT.

2.7 EXPENDABLE SUPPLIES

A. Glove Bag: Provide glove bags as described in 29 CFR Part 1926. Glove bag assembly shall be prefabricated of six-mil thick transparent polyethylene or PVC sheeting with preprinted OSHA warning label and shall typically be constructed of at least two inward projecting long sleeves and an internal pouch. Glove bag shall be constructed and installed in such a manner that it surrounds the object or material to be removed and contains all Asbestos fibers released during glove removal. Glove bag shall have sufficient capacity to hold removed materials and allow leak-tight sealing.

B. Duct Tape: Provide industrial-grade duct tape in two-inch and three-inch widths, suitable for bonding sheet plastic and disposal containers required for the Asbestos Work.

C. Disposal Containers: Provide leak-tight disposal containers for ACM generated wastes. Leak-tight means that solids, liquids, and dust cannot escape or spill out. Disposal containers shall be either pre-labeled or affixed with OSHA warning label in accordance with 29 CFR Part 1926.

D. Disposal Bags: Shall be six-mil thick or thicker, leak-tight, pre-labeled with OSHA warning label, for placement of Asbestos generated waste.

E. Leak-tight Wrapping: Use two layers of polyethylene sheet stock not less than six mils thick for containment of removed ACM such as reactor vessels, large tanks, boilers, insulated pipe segments, and other materials too large to be placed in disposal containers. Upon placement of ACM in wrapping, each layer shall be individually sealed leak-tight using duct tape.

F. Fiberboard Drums: Provide fiberboard drums when required by Laws or Regulations, or authorities having jurisdiction.

G. Sheet Plastic:
   1. Provide sheet plastic in the largest sheet size necessary to minimize seams.
   2. Not less than six-mil thick polyethylene film, clear or frosted, complying with ASTM D4397.

H. Wetting Agents:
   1. Amended Water: Comply with ASTM D1331.
   2. Removal Encapsulant: Provide removal encapsulant (penetrating encapsulant) when conducting Asbestos removal activities that require a longer removal time or are subject to rapid evaporation of amended water. Removal encapsulant shall be capable of wetting ACM and retarding fiber release during disturbance of ACM equal to or greater than provided by amended water.

2.8 OTHER ITEMS

A. Provide sufficient quantity of other items that may include, but not be limited to, the following: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, non-conductive ladders, lumber necessary for constructing Asbestos regulated containment work areas, UL-approved temporary electrical equipment, material and cords, ground fault circuit interrupters (GFCI), water hoses of sufficient length, fire extinguishers, first aid kits, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas and temporary fencing where required.

B. Scaffolding: Provide scaffolding of the type necessary to perform the Work, subject to requirements of Laws and Regulations.

C. Air Monitoring Test Equipment: Furnish the following test equipment to be delivered to the Resident Project Representative:
   1. Two portable high-volume area air sampling pumps, which shall be Gilian Model AirCon-2DC with appropriate power module, or equal. Each unit shall

be in kit form containing a monitoring pump, hose, and clip assembly, three-part filter holder, 50-mm extension cowl, spare hose fitting, and 100 25-mm filter membranes. Test equipment shall remain property of Subcontractor and shall be maintained by Subcontractor.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Testing and Evaluation:
   1. Perform testing and evaluation of suspected potential ACM as indicated in Paragraph 1.1.A of this Section.
   2. Testing and evaluation, including obtaining of samples, shall be by the qualified testing agency.
   3. Procedure:
      a. Prior to demolition of potential ACM listed in Paragraph 1.1.A of this Section, the potential ACM shall be inspected by an Asbestos inspector, who is an employee of the testing laboratory, in accordance with ASTM E1368 and procedures and guidelines commonly used and accepted in the jurisdiction where the Project is located for identifying approximate locations and quantities of ACM.
      b. Testing laboratory's Asbestos inspector shall obtain samples of suspected ACM and transport samples to the testing laboratory for evaluation.
      c. All samples shall be tested using polarized light microscopy (PLM).
      d. Samples for which results are, or are suspected to be, inconclusive shall be tested using quantitative transmission electron microscopy (TEM).
      e. Testing laboratory shall, within ten days of obtaining samples, prepare and submit to CONTRACTOR, who shall review and submit to ENGINEER, the testing laboratory's report on the sampling and evaluation results.
   4. Identification of Removal and Disposal Costs: Following completion of the testing laboratory's evaluation report, prepare and submit to ENGINEER change order proposal for removing and disposing of the ACM, if any, found to exist by the testing laboratory.

B. Examine conditions under which removal and disposal of ACM will be performed and advise ENGINEER in writing of conditions detrimental to proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Location of temporary facilities for removal and disposal of ACM shall be subject to acceptance of the DEPARTMENT. Prior to starting the Work obtain DEPARTMENT's acceptance of proposed location of temporary facilities required for the Work.

B. Prepare the Asbestos control areas and post temporary signage required in Part 2 of this Section.

3.3 REMOVAL OF ASBESTOS-CONTAINING MATERIAL

A. Exposure Control:
   1. Design, erect, install, and maintain temporary airtight enclosures and partitions suitable for Asbestos removal activities, to eliminate exposures to operations and maintenance employees, others, and the environment where applicable.
   2. Personnel working on removal and disposal of ACM shall wear and utilize protective clothing and protective equipment as required.
   3. Eating, smoking, drinking, applying cosmetics, and similar activities are not allowed in Asbestos regulated work areas.
   4. Perform hot work in Asbestos regulated work area, such as burning, cutting, and welding, under controlled conditions in accordance with 29 CFR Part 1926 and other Laws and Regulations.
   5. Personnel of other trades not engaged in Asbestos removal and disposal activities shall not be exposed to airborne Asbestos unless required training, administrative, and personal protective requirements are complied with.
   6. If an Asbestos spill or release occurs outside of Asbestos regulated work area, work shall be halted and immediately notify DEPARTMENT. Correct the spill or release to satisfaction of DEPARTMENT prior to resuming the Work.
   7. Perform personal air sampling. An independent third-party industrial hygiene consultant hired by DEPARTMENT shall complete perimeter, work area, and final clearance air sampling.
   8. Immediately halt ACM removal and disposal Work in Asbestos regulated work area when measured airborne total fiber concentration exceeds 0.01 fibers per cubic centimeter or the pre-removal concentration, whichever is greater, outside the Asbestos regulated work area. Correct the condition to the satisfaction of CONTRACTOR'S CIH at no cost to DEPARTMENT. CONTRACTOR shall document corrective actions taken.
   9. Protection of Adjacent Areas:
      a. Removal and disposal of ACM shall be performed without contaminating adjacent work and areas. Where such work or area is damaged or contaminated as verified by ENGINEER by visual inspection or sample analysis, decontaminate and restore the affected area to its original condition at no expense to DEPARTMENT, as deemed appropriate by DEPARTMENT and ENGINEER.
   10. Critical Barriers: Isolate all openings to Asbestos regulated work areas with airtight seals that prevent contaminant spread in accordance with Laws and Regulations. Provide such critical barriers of six-mil thick polyethylene, sealed air-tight. Cover and seal wall, ceiling, and floor surfaces in accordance with Laws and Regulations.
   11. Asbestos Control Area Requirements:
      a. General: Establish and maintain NPEs for Class I Asbestos Work other than glove bag removal or wrap and cut removal. Provide a viewing window in the wall of the NPE at a location from which the ACM removal Work may be observed. Perform the following sequentially,

completing each activity before proceeding to the next activity:

1) Place tools, scaffolding, staging, and similar activities necessary for the ACM removal Work in the area to be isolated prior to erecting critical barriers.
2) Pre-clean surface.
3) Install decontamination units.
4) Install critical barriers.
5) Install local exhaust system and appurtenances.
6) Remove ACM and perform monitoring.
7) Perform required cleaning.
8) After inspection and cleaning, remove barriers and containment materials.

B. Removal – General:

1. Perform ACM removal and disposal, including handling, storing, and transporting Asbestos waste materials, in accordance with the Asbestos removal and disposal plan (Asbestos hazard abatement plan (AHAP)) submittal accepted by ENGINEER; the Contract Documents; Laws and Regulations; applicable permits; and requirements of authorities having jurisdiction. Among the applicable requirements, comply with applicable requirements of 12 NYCRR 56, 29 CFR Part 1910, 29 CFR Part 1926, 40 CFR Part 61, Subpart A and Subpart M, NFPA 10, NFPA 70, NFPA 90A, and NFPA 101. Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting Work. Where the requirements of the Contract Documents and Laws and Regulations differ, the most-stringent requirement as defined by ENGINEER shall apply.
2. Wastewater from Asbestos removal operations, including amended water, shall be collected and filtered through a system in the same manner specified in Part 2 of this Section for personnel decontamination shower discharge water. Discharge filtered wastewater in accordance with Laws and Regulations and requirements of the DEPARTMENT. Properly dispose of contaminated filters as Asbestos waste.
3. Prior to moving ACM from the Asbestos control area, double-bag all ACM in polyethylene bags or wrapping, as appropriate, in accordance with Part 2 of this Section.
4. Use corrugated cartons or drums for disposal of ACM having sharp-edged components such as nails, screws, tin sheeting, and other pointed or sharp surfaces, that may tear polyethylene bags. ACM within the drums or cartons shall be double-bagged.
5. Transport bagged ACM to an appropriate disposal site in either thirty gallon capacity metal/fiber drums with tight lids, or in locked steel dumpsters.
6. Do not dump ACM, whether or not bagged, down chutes. Do not drop or toss ACM, whether or not bagged.

C. Compatibility:

1. Use only removal and cleaning materials and equipment that are compatible with the surface from which ACM is being removed and cleaned, as recommended by the manufacturer of the materials.

2. All vacuums used shall be equipped with HEPA filtration system, such as Model #GA-73 by "NILFISK" and Model #75ASA by Pullman/Holt, or equal.

D. Storage and Removal from the Site:
   1. Retain all stored items in an orderly arrangement allowing maximum access, without impeding traffic, and providing the required protection of materials.
   2. When ACM is kept in the Asbestos control area or adjacent work areas overnight or longer, ACM shall be double-bagged and stored in metal, fully-enclosed waste containers (dumpsters) that are securely locked. Do not store ACM at the Site outside of the Asbestos control area.
   3. At least twice a week, and more often if necessary, completely remove all ACM scrap, debris, and waste material from the Site.
   4. Work Areas: Daily, and more often if necessary, inspect the work areas and adjoining spaces, and remove and dispose of all ACM scrap, debris, and waste materials.

E. Cleaning Immediately Following Removal: Following the careful double-bagging of ACM, label each bag appropriately.
   1. Wipe each exposed bag surface with clean, damp cloths prior to transportation to disposal site. Wipe-cloths shall be disposed of as ACM.
   2. Plastic sheeting used for containment or shielding of Asbestos control area shall be carefully removed, folded inward, and double bagged for disposal. Critical barriers are not to be removed until the Asbestos control area has passed a visual inspection by ENGINEER at conclusion of ACM removal operations, and acceptable final clearance air sample results are obtained and accepted by ENGINEER.
   3. After all Asbestos waste is removed from the Asbestos regulated work area, and final clean-up is completed, CONTRACTOR and CONTRACTOR's CIH will visually inspect all surfaces within the Asbestos regulated work area for residual material or accumulated debris. Re-clean all areas showing dust or residual materials. CONTRACTOR's CIH shall certify in writing that the area is safe before the warning signs and boundary warning tape are removed and prior to unrestricted entry is allowed.
   4. Encapsulant: Prior to removal of plastic barriers and after clean-up of gross Asbestos contamination and final visual inspection, spray-apply a post-removal (lockdown) encapsulant to ceilings, walls, floors, and other surfaces in the Asbestos removal area in accordance with Laws and Regulations.
   5. Refer to cleaning requirements in Article 3.5 of this Section.

F. Results of air sampling, testing, and monitoring during ACM removal and disposal Work shall not exceed the limits indicated in Article 3.4 of this Section.

3.4 FIELD QUALITY CONTROL

A. Site Tests and Monitoring:
   1. When performing ACM removal and disposal, and when airborne Asbestos dust or fibers are emitted, retain the services of a certified industrial hygienist (CIH), and testing laboratory for monitoring Asbestos exposure levels.

2. Responsibilities of the Testing Laboratory and CIH Relative to Site Tests and Monitoring:
    a. Equipment: Collect samples of Airborne asbestos concentrations using appropriate air monitoring pumps and Asbestos sampling filters. Pumps shall be calibrated before each sampling cycle.
    b. Perform Asbestos work area air monitoring and personal air monitoring for personnel.
    c. Obtain personal air monitoring samples for the greater of of the following: 25 percent of the ACM removal and disposal workers in each shift, or two workers per shift.
    d. Work Area Sampling Procedures:
        1) Initial background air samples shall be taken prior to beginning preparation of the Asbestos control area or containment construction activities. Where proper sealing is not feasible, obtain initial air samples of the ambient conditions prior to installing barriers. Initial air monitoring described in this paragraph will establish the "reference" TWA.
        2) From start to completion of ACM removal operations, continuously monitor air quality in the Asbestos control area. Frequency of filter changes in sampling devices as required by final permit issued.
        3) Final clearance air sample results shall not exceed the limited indicated in this Article.
        4) Location of Sampling Devices: Locate sampling devices within each Work areas, immediately outside all major openings, in both the clean room and decontamination room, downwind of equipment producing a negative pressure (if any), and in the vicinity of temporary Asbestos storage areas. Samples shall represent, with reasonable accuracy, the airborne concentrations of Asbestos fibers that may reach the breathing zones of personnel.
    e. Personal Monitoring: Perform personal sampling and monitoring in accordance with 29 CFR Part 1926.1101 and other Laws and Regulations, and CONTRACTOR’s AHAP accepted by ENGINEER.
    f. Methods of Measurement: Determination of airborne concentrations of Asbestos fibers shall be made using phase contrast microscopy (PCM) and transmission electron microscopy (TEM). PCM is the OSHA Reference Method specified in Appendix A of 29 CFR 1926.1101, and include NIOSH Pub No. 84-100 Method 7400. TEM is the USEPA (AHERA) method specified in 40 CFR 763, Subpart E, Appendix A.
    g. Reporting:
        1) Calculate air monitoring results at the 95 percent confidence level.
        2) Submit to ENGINEER documentation of fiber counts not more than 24 hours after completing each sampling cycle. Submit with monitoring results data from sampling equipment calibrations. Submit each sample’s TWA average count, and the time, date, and exact location where each sample was obtained. Locations of air monitors shall be described by referencing major building locations and features near the monitoring equipment.
        3) Post at a conspicuous location at the Site results of personal samples

within 24 hours of sampling.

4) Personal sampling results shall be made available to DEPARTMENT upon request.

h. Local Exhaust System: Pressure differential recordings for each workday shall be reviewed by the CIH on a daily basis and submitted to ENGINEER within 24 hours from the end of each workday. CIH shall notify CONTRACTOR, Subcontractor, and ENGINEER immediately when a variance in the pressure differential could allow migration of Asbestos fibers outside of the Asbestos control area.

i. Acceptable Limits:

1) Maintain Asbestos fiber concentrations outside NPEs equal to or less than the greater of the following: 0.01 fibers per cubic centimeter or background levels, during Asbestos removal and disposal Work.

2) When fiber concentrations rise above the required limit, immediately halt the Work and immediately investigate work procedures to determine the cause. Restart the Work when air quality is within specified limits.

3) Personnel shall not be exposed to airborne fiber concentrations in excess of 0.1 fiber per cubic centimeter in an eight-hour TWA (OSHA PEL) and 1.0 fiber per cubic centimeter averaged over a sampling period of 30 minutes (OSHA excursion limit).

4) If the PEL or excursion limit is exceeded inside the Asbestos regulated work area, immediately halt the Work and notify DEPARTMENT and ENGINEER. Implement additional engineering controls and work practice controls to reduce airborne Asbestos fiber levels below prescribed limits in the work areas. Do not restart the Work until air monitoring indicates fiber counts within required limits.

5) When air testing and monitoring following final cleaning indicate a fiber count greater than the limit indicated in this Article in the Work areas, re-clean the areas with unacceptable monitoring results. Retest re-cleaned areas at CONTRACTOR's expenses; ENGINEER reserves the right to require use of a third-party testing laboratory for such re-testing, at CONTRACTOR's expense. Perform repeated cycles of cleaning and clearance testing until fiber count is within limit indicated in this Article within the Work areas. All costs of re-cleaning and retesting will be at no additional cost to DEPARTMENT.

j. Sampling After Final Clean-up (Clearance Sampling):

1) Prior to conducting final air clearance monitoring, conduct final visual inspection of final clean-up of each Asbestos regulated work area, accompanied by ENGINEER.

2) Final clearance air monitoring shall not begin until final cleaning is acceptable to the CIH. CIH and CONTRACTOR's testing laboratory shall perform area sampling for airborne fibers using aggressive air sampling techniques as defined in Appendix A of 40 CFR Part 763, Subpart E, or as otherwise required by Laws and Regulations.

3) Use PCM method as indicated in this Article.

4) Submit results to ENGINEER. Results shall be within the limit indicated in this Article.

3.5 CLEANING

A. Throughout the removal and disposal of ACM, maintain the Asbestos control area and adjacent work areas in a standard of cleanliness in accordance with the Contract Documents.
   1. Prevent areas other than the Asbestos control area from becoming contaminated with Asbestos-containing dust and debris. Should areas outside the Asbestos control area become contaminated with Asbestos-containing dust or debris as a consequence of CONTRACTOR's actions, CONTRACTOR shall be responsible for all cleaning required to comply with Laws and Regulations.
   2. All costs incurred in the cleaning or otherwise decontaminating of non-work areas and the contents thereof, shall be paid by CONTRACTOR at no additional cost to DEPARTMENT.
   3. Work areas shall not be blown clean with compressed air. Dry sweeping of Asbestos work areas is prohibited.

B. Progress Cleaning:
   1. Keep Asbestos control area and adjacent work areas clean on a daily, ongoing basis, to the extent practicable.
   2. Prepare loose ACM for disposal by packaging the waste and removing it from the work area to the ACM load-out area.
   3. Inspect and repair polyethylene sheeting and other critical barriers.

C. Final Cleaning:
   1. Except as specified otherwise, "clean" (for the purpose of this Section) means the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
   2. After final cleaning, air monitoring results shall indicate fiber concentration in the work areas within the limit specified in Article 3.4 of this Section.
   3. Prior to completing the ACM removal and disposal Work, remove all tools, surplus materials, equipment, scrap, debris, and waste from the Site.
   4. Cleaning shall progress from the point most remote from the intakes of the negative pressure exhaust units towards the units, as well as from the highest point of the surface being cleaned towards the lowest point.

3.6 DISPOSAL

A. ACM removed by CONTRACTOR, is CONTRACTOR's property and shall be disposed of as specified and in accordance with Laws and Regulations. Dispose of ACM at an Asbestos approved and Asbestos-permitted landfill.

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SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Contract Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the work.

1.3 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications (CONTRACTOR shall provide copies of all documents on-site), except where more stringent requirements are specified herein:
   1. American Concrete Institute (ACI)
      a. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials.
      b. ACI 211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
      c. ACI 301 – Specification for Structural Concrete.
      d. ACI 302 – Guide for Concrete Floor and Slab Construction.
      e. ACI 304 – Guide for Measuring, Mixing, Transporting and Placing Concrete.
      f. ACI 305R - Hot Weather Concreting.
      g. ACI 306R - Cold Weather Concreting.
      h. ACI 308 - Standard Practice for Curing Concrete.
      i. ACI 318 - Building Code Requirements for Structural Concrete.
   2. American Society for Testing and Materials (ASTM)
      a. ASTM A615 - Deformed and Plain Billet Steel for Concrete Reinforcement.
      b. ASTM C33 - Concrete Aggregates.
      c. ASTM C94 - Ready-Mixed Concrete.
      d. ASTM C150 - Portland Cement.
      e. ASTM C260 - Air Entraining Admixtures for Concrete.
      f. ASTM C494 - Chemical Admixtures for Concrete.

3. Concrete Reinforcing Steel Institute (CRSI)
    a. Manual of Standard Practice.
    b. Design Handbook.

1.4 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.5 SUBMITTALS

A. Submit the following in accordance with the General Conditions.

B. Scheduling: Submit concrete placement schedule before start of placement operations.

C. Product data for each type of manufactured material and product indicated, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, dry-shake finish materials, fiber reinforcement, curing materials, floor and slab treatments, bonding agents and others, if requested by the ENGINEER.

D. Written mix design shall be based on field experience or trial mixture. Submit documentation in accordance with ACI 301, Section 4.
    1. Indicate amounts of mixing water to be withheld for later addition at Project site.

E. Shop drawings for detailing, fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 “Manual of Standard Practice for Detailing Reinforced Concrete Structures” showing bar schedules, bent bar diagrams, arrangement, and support of concrete reinforcement. Include special reinforcing required for openings through concrete structures.

F. Certificates: Material certificates shall be signed by manufacturer and CONTRACTOR, certifying that each material item complies with or exceeds specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

G. Test and Evaluation Reports: Provide laboratory test reports for concrete materials and mix designs.

H. Manufacturer Instructions: Provide manufacturers literature for admixtures use in concrete mix.

I. Source Quality Control Submittals: Provide certificates of source of cementitious materials and aggregate used in concrete mix.

J. Special Procedure Submittals: Proposed method of concrete curing.

K. Product Data: Provide product data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, curing compounds, dry-shake finish materials, fiber reinforcement, and others if requested by ENGINEER.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
   1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
   1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
   2. Personnel performing laboratory tests shall be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

C. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
   1. ACI 301, "Specification for Structural Concrete", Sections 1 through 5.

D. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

E. Pre-installation Conference: Conduct conference at Project site.
   1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
      a. ENGINEER’s representative.
      b. CONTRACTOR'S superintendent.
      c. Independent testing agency responsible for concrete design mixtures.
      d. Ready-mix concrete manufacturer.
      e. Cast-in-place concrete subcontractor.

2. Review concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction joints, forms and form-removal limitations, reinforcement accessory installation, concrete repair procedures, and protection of cast-in-place concrete.

F. Qualifications
   1. Manufacturer's Factory Qualifications: Manufacturing facilities shall have accreditation to ISO 9000:2000 or an equivalent quality management system acceptable to the ENGINEER.
   2. Testing Firm Qualifications: An independent firm, with experience and capability to conduct specified tests, and is a member company of NETA or is an NRTL as defined by OSHA in 19 CFR 1910.7.
   3. Testing Firm's Field Supervisor Qualifications: person currently certified by NETA or NICET to supervise on-site testing specified in Part 3.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle steel reinforcement to prevent bending and damage.

B. The acceptability of steel reinforcement with rust, mill scale or a combination of both shall be determined based on the provisions of ACI 318 and applicable ASTM specifications.

PART 2 – PRODUCTS

2.1 FORM-FACING MATERIALS

A. General: Comply with Division 03 Section "Cast-In-Place Concrete" for formwork and other form-facing material requirements.

B. Form-Facing Panels for As-Cast Finishes: Exterior-grade plywood panels, non-absorptive, that will provide continuous, true, and smooth concrete surfaces, medium-density overlay, Class 1, or better, mill-applied release agent and edge sealed, complying with DOC PS 1.

C. Rustication Strips: Metal, rigid plastic or dressed wood with sides beveled and back kerfed; non-staining; in longest practicable lengths.

D. Chamfer Strips: Metal, rigid plastic, elastomeric rubber, or dressed wood, 3/4 by 3/4 inch (19 by 19 mm), minimum; non-staining; in longest practicable lengths.

E. Form Joint Tape: Compressible foam tape; pressure sensitive; AAMA 800, "Specification 810.1, Expanded Cellular Glazing Tape"; minimum 1/4 inch (6 mm) thick.

F. Form Joint Sealant: Elastomeric sealant complying with ASTM C 920, Type M or S, Grade NS that adheres to form joint substrates.

G. Sealer: Penetrating, clear, polyurethane wood form sealer formulated to reduce absorption of bleed water and prevent migration of set-retarding chemicals from wood.

H. Form-Release Agent: Commercially formulated colorless form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of those surfaces.
   1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

I. Surface Retarder: Chemical liquid set retarder, for application on form-facing materials, capable of temporarily delaying final hardening of newly placed concrete surface to depth of reveal specified.

J. Form Ties: Factory-fabricated, snap-off or removable metal ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish ties with tapered tie cone spreaders that, when removed, will leave holes 1-1/2 inches (38 mm) in diameter on concrete surface.

2.2 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
   1. Portland Cement: ASTM C 150, Type I/II or ASTM C595 Type IL, gray. Supplement with the following:
   2. Fly Ash: ASTM C 618, Class F.
   3. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
   4. Silica Fume: ASTM C 1240, amorphous silica.

B. For cast-in-place concrete exposed to water, wastewater or groundwater, limit percentage, by weight, of cementitious materials other than Portland cement according to ACI 301, 318 and 350 requirements. Use fly ash, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of Portland cement, which would otherwise be used, by a minimum of 25 percent. Use one cement combination for the same application throughout the Project unless otherwise acceptable to ENGINEER.

C. Normal-Weight Aggregates: ASTM C 33, Class 5S coarse aggregate or better, graded. Provide aggregates from a single source.
   1. Maximum Coarse Aggregate Size: 1 inch (25 mm) typical or 3/4" for concrete toppings.
   2. Gradation: Uniformly graded.

D. Normal-Weight Fine Aggregate: ASTM C 33, manufactured or natural sand, from same source for entire Project.

E. Water: Potable, complying with ASTM C 94/C 94M except free of wash water from mixer washout operations.

2.3 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
   1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
   2. Retarding Admixture: ASTM C 494/C 494M, Type B.
   3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
   4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
   5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
   6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

C. Admixtures shall not be stored on-site.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
Absorptive cover is not permitted for flatwork.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
   1. Use of moisture-retaining cover or moisture curing is required for flatwork.
   2. A minimum seven day curing period is required for flatwork.

C. Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
   1. Curing compound is not permitted for flatwork.
   2. For concrete indicated to be sealed, curing compound shall be compatible with sealer.

2.5 REPAIR MATERIALS

A. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements.
   1. Types IV or V, for load bearing, or bonding hardened or freshly mixed concrete to hardened concrete.

2.6 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of cast-in-place concrete proportioned on basis of laboratory trial mixture or field test data, or both, according to ACI 301.
   1. Use a qualified independent testing agency for preparing and reporting proposed design mixtures based on laboratory trial mixtures.

B. Proportion concrete mixtures as follows:
   1. Mix A - 5000-psi 28-day compressive strength; water-cement ratio 0.40 maximum; for use in exterior pads, Admixtures in the mix include air entraining and water reducing; a high-range water reducer may be added if pumped. Do not use air-entraining admixture in concrete receiving a trowel finish.
   2. Mix B - 4000-psi 28-day compressive strength; water-cement ratio 0.45 maximum; for filling steel pipe piles. Admixtures in the mix include air entraining and water reducing; a high-range water reducer may be added if pumped.

C. Cementitious Materials: For cast-in-place concrete exposed to deicers, limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 and318requirements.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

E. Admixtures: Use admixtures according to manufacturer's written instructions

F. Use air-entraining admixture in exterior exposed concrete mix designs unless scheduled for a trowel finish or otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus or minus 1 percent within the following limits.
   1. 6 percent for coarse aggregate size No. 57 or No. 67.
   2. 7 percent for course aggregate size No. 7.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.

1. Clean equipment used to mix and deliver cast-in-place concrete to prevent contamination from other concrete.
2. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

2.8 STEEL REINFORCEMENT AND ACCESSORIES

A. Reinforcing bars shall be ASTM A615, Grade 60, deformed. Reinforcing bars to be welded shall be ASTM A706.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire fabric in place; manufacture according to CRSI's "Manual of Standard Practice."
   1. Where legs of wire bar supports contact forms, use gray, all-plastic bar supports.

2.9 CONCRETE SURFACE SEALER

A. Where noted on the Contract Drawings, concrete surface sealer shall be a transparent, odorless, water-based, chemically reactive penetrating sealer and hardener that seals by densifying concrete. Concrete surface sealer shall be Ashford Formula by Curecrete Distribution, Inc.

PART 3 – EXECUTION

3.1 FORMWORK

A. Limit deflection of form-facing panels to not exceed ACI 347 requirements.

B. In addition to ACI 347 limits on form-facing panel deflection, limit cast-in-place concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
   Class B, 1/8 inch.

C. Fabricate forms to result in cast-in-place concrete that complies with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-in-place surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood rustications, keyways, reglets, recesses, and the like, for easy removal.
   1. Seal form joints and penetrations at form ties with form joint tape or form joint sealant to prevent cement paste leakage.

2. Do not use rust-stained steel form-facing material.

E. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

F. Chamfer exterior corners and edges of cast-in-place concrete.

G. Coat contact surfaces of wood rustications and chamfer strips with sealer before placing reinforcement, anchoring devices, and embedded items.

H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

L. Coat contact surfaces of forms with surface retarder, according to manufacturer's written instructions, before placing reinforcement.

M. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and attach securely to prevent deflection and maintain stability of liners during concreting. Prevent form liners from sagging and stretching in hot weather. Seal joints of form liners and form liner accessories to prevent mortar leaks. Coat form liner with form-release agent.

3.2 REINFORCEMENT AND INSERTS

A. Securely fasten steel reinforcement and wire ties against shifting during concrete placement.

B. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.3 REMOVING AND REUSING FORMS

A. Leave formwork for slabs, and other structural elements that support weight of concrete in place until concrete has achieved 28-day design compressive strength.

Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work. Do not use split, frayed, delaminated, or otherwise damaged form-facing material. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for cast-in-place concrete surfaces.

3.4 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, form-release agent, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by ENGINEER. If approved by ENGINEER, provide written documentation including date and time, location, reason and quantity of water added.

C. Before test sampling and placing concrete, water may be added at Project site, up to the limits of the specified water-cement ratio and slump, subject to limitations of ACI 301. This presumes that not all mixing water is added at the batching plant.
   1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete to avoid segregation.
   1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures.
   2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
   3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. Do not permit vibrators to contact forms.

E. Cold-Weather Placement: Comply with ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
   1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents.
4. Do not use chemical accelerators unless otherwise specified and approved in design mixtures.
5. Provide written documentation of compliance with ACI 306 provisions, including temperature logs of concrete during placement and curing.

F. Hot-Weather Placement: Comply with ACI 305 and as follows:
1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is CONTRACTOR's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.
3. Provide written documentation of compliance with ACI 305 provisions, including temperature logs of concrete during placement and curing.

G. Concrete Washout: In advance of concrete placements, coordinate wash out area for concrete trucks with ENGINEER and DEPARTMENT. Washout of concrete trucks shall not be permitted on-site, unless written permission is provided by the DEPARTMENT. If permitted on-site, washout of trucks shall be performed in a single location throughout the project and comply with NYSDEC best management practices.

3.5 QUALITY CONTROL DURING CONSTRUCTION

A. The CONTRACTOR shall employ a testing agency, approved by the ENGINEER, to perform tests and to submit test reports. Field testing to be performed by an ACI certified concrete field testing technician grade I.

B. Sampling and testing for quality control during concrete placement may include the following, as directed by ENGINEER.
1. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.
a. Slump testing shall be in accordance with ASTM C143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
b. Air content testing shall be in accordance with ASTM C173, volumetric method for lightweight or normal weight concrete; ASTM C231, pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.

c. Testing of concrete temperature shall be in accordance with ASTM C1064; one test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.

d. Molding of cylinders for compression testing shall be in accordance with ASTM C31; one set of six standard 6-inch dia. cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.

e. Compressive-strength testing shall be in accordance with ASTM C 39; one set for each 100 cu. yd. or fraction thereof, of each concrete mix placed in any one day; one specimen tested at 7 days, one specimen tested at 14 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing, if required.

2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.

3. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

4. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.

C. Test results will be reported in writing to the DEPARTMENT, ENGINEER, ready-mix producer, and CONTRACTOR within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.

D. Nondestructive testing shall consist of impact hammer, sonoscope, or other nondestructive device but shall not be used as the sole basis for acceptance or rejection.

E. The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by ENGINEER. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed.

F. In addition to the testing noted above, the ENGINEER will engage a qualified independent testing and inspecting agency to perform special inspections as required by the Building Code of New York State (based on IBC 2018).

3.6 REMOVING FORMS

A. Formwork supporting the weight of concrete, such as slabs and other structural elements, may be removed in less than 14 days but in no case until concrete has attained at least 75 percent of design minimum compressive strength at 28 days, unless otherwise noted. Determine representative compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.

B. Form-facing material may be removed 4 days after placement only if shores and other vertical supports have been arranged to permit removal of form-facing material without loosening or disturbing shores and supports.

C. Cleaning Forms: In advance of concrete placements, coordinate area for cleaning forms with the ENGINEER and the DEPARTMENT. Cleaning of forms shall be performed in a single location on-site and resulting debris shall be removed from the site and properly disposed.

3.7 REUSING FORMS

A. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use patched forms for exposed concrete surfaces except as acceptable to the ENGINEER.

3.8 CONCRETE SURFACE REPAIRS (NEW CONCRETE)

A. Repair and patch defective areas with cement mortar immediately after removing forms, when acceptable to the ENGINEER.

B. Mix dry-pack mortar, consisting of 1 part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing.
   1. Cut out honeycombs, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts down to solid concrete but in no case to a depth less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with bonding agent. Place patching mortar before bonding agent has dried.

2. For surfaces exposed to view, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

C. Remove and replace formed concrete having defective surfaces if defects cannot be repaired to satisfaction of the ENGINEER. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes and fill with dry-pack mortar or precast cement cone plugs secured in place with bonding agent.
   1. Repair concealed formed surfaces, where possible, containing defects that affect the concrete's durability. If defects cannot be repaired, remove and replace the concrete.

D. Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface tolerances specified for each surface and finish. Correct low and high areas as specified. Test unformed surfaces sloped to drain for trueness of slope and smoothness by using a template having the required slope.
   1. Repair finished unformed surfaces containing defects that affect the concrete's durability. Surface defects include crazing and cracks in excess of 0.01 inch wide or that penetrate to the reinforcement or completely through nonreinforced sections regardless of width, spalling, popouts, honeycombs, rock pockets, and other objectionable conditions.
   2. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
   3. Correct low areas in unformed surfaces during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete. Proprietary underlayment compounds may be used when acceptable to the ENGINEER.
   4. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose reinforcing steel with at least 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

E. Repair isolated random cracks and single holes 1 inch or less in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Place dry-pack before bonding agent has dried. Compact dry-

pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

F. Perform structural repairs with prior acceptance by the ENGINEER and the DEPARTMENT for method and procedure, using specified epoxy adhesive and mortar.

G. Repair methods not specified above may be used, subject to acceptance of the ENGINEER.

3.9 FINISHES, GENERAL

A. Apply a nonslip rough broom finish to exterior concrete equipment pads, walking surfaces and elsewhere as indicated.

3.10 AS-CAST FORMED FINISHES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding specified limits on formed-surface irregularities.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Remove fins and other projections exceeding specified limits on formed-surface irregularities. Repair and patch tie holes and defects.

C. Rubbed Finish: Apply the following to smooth-form-finished as-cast concrete where indicated:
   1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
   2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part Portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match surrounding concrete. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
   3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part Portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match surrounding concrete. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.

D. Form-Liner Finish: Produce a textured surface free of pockets, streaks, and honeycombs, and of uniform appearance, color, and texture.

3.11 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306 for cold-weather protection and with ACI 305 for hot-weather protection during curing.

B. Begin curing cast-in-place concrete immediately after removing forms from concrete. Cure according to ACI 308.1, by one or a combination of the following methods that will not mottle, discolor, or stain concrete:
   1. Moisture Curing: Keep exposed surfaces of cast-in-place concrete continuously moist for not less than seven days with the following materials:
      a. Water.
      b. Continuous water-fog spray.
      c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
   2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period; use cover material and waterproof tape.
   3. Curing Compound: Mist concrete surfaces with water. Apply curing compound uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period. Curing compound is not permitted for flatwork.
   4. Moisture curing or Moisture-retaining-cover curing is required for flatwork (including concrete toppings). A minimum 7 day curing period is required for flatwork.

3.12 QUALITY CONTROL

A. Testing Agency: The DEPARTMENT or the ENGINEER will engage a qualified independent testing and inspecting agency to perform special inspections as required by the Building Code of New York State (based on IBC 2018).

+ + END OF SECTION + +

SECTION 05 12 00

STRUCTURAL STEEL FRAMING

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes structural steel, as shown on the Contract Drawings, complete including framing members, base and anchor plates, connections, grouting under base and anchor plates, fabrication, delivery and installation.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements are specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM A6 - General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling.
      b. ASTM A36 - Carbon Structural Steel.
      c. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
      d. ASTM A108 - Steel Bars, Carbon, Cold-Finished, Standard Quality.
      e. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
      f. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.
      g. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
      h. ASTM A325 – Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
      i. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
      j. ASTM A992, Grade 50 - Structural Steel Shapes.
      k. ASTM F959 - Compressible - Washer - Type Direct Tension Indicators for Use with Structural Fasteners.
   2. American Welding Society
      a. AWS D1.1 - Structural Welding Code.
      b. AWS A2.0 - Standard Welding Symbols.
   3. American Institute of Steel Construction
      a. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
   4. SSPC - Steel Structures Painting Council.
   5. Research Council on Structural Connections (RCSC) Specification for Structural Joints Using A325 or A490 bolts.

1.3 SUBMITTALS

A. In addition to those submittals identified in the General Conditions, the following items shall also be submitted:

B. Product data for each type of product indicated.

C. Shop drawings prepared by a qualified professional engineer licensed in New York State showing fabrication of structural-steel components.
   1. Include profiles, sizes, spacing and locations of structural members, details of cuts, connections, splices, camber, holes, and other pertinent data.
   2. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
   3. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pre-tensioned and slip-critical, high-strength bolted connections.

D. Manufacturer's certificates, certifying welders employed on the Work, verifying AWS qualifications within the previous 12 months.

E. Mill test reports signed by manufacturers certifying that the following products comply with requirements:
   1. Structural steel including chemical and physical properties.
   2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
   3. Direct-tension indicators.
   4. Tension-control, high-strength bolt-nut-washer assemblies.
   5. Shop primers.
   6. Non-shrink grout.

1.4 QUALITY ASSURANCE

A. Fabricator qualifications: Engage a firm experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the Work. Fabricator shall have AISC Category I, II or III Quality Certification.

B. Installer qualifications: Engage an experienced Installer who has completed structural steel work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

C. Perform work in accordance with the applicable provisions of the following specifications and documents:

1. AISC, “Specification for the Design and Erection of Structural Steel for Buildings.”
    a. Connections, unless noted otherwise on the Contract Documents, shall be designed for standard end loads as determined by the uniform load constants indicated in the AISC Manual of Steel Construction. Connections shall be made with double clip angles unless otherwise indicated on the Contract documents. Shop standards shall be used to the largest extent possible.
    b. Design connections not detailed on the Contract Drawings under direct supervision of a Professional Engineer experienced in design of this work and licensed in New York State.
2. AISC, “Specification for Allowable Stress Design of Single-Angle Members.”
3. ASTM A6, “Specification for General Requirements for Rolled Steel Plates, Shapes, and Bars for Structural Use.”
4. Research Council on Structural Connections (RCSC), “Specification for Structural Joints Using ASTM A 325 or A490 Bolts.”
5. AWS D1.1, “Structural Welding Code”.

D. Professional Engineer shall be a licensed engineer legally authorized to practice in New York State and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for projects with structural steel framing that are similar to that indicated for this Project in material, design, and extent.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver structural steel to project site in such quantities and at such times to ensure continuity of installation.

B. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.
    1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
    2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.6 FIELD MEASUREMENTS

A. Verify that field measurements are as shown on Contract Drawings.

1.7 SEQUENCING

A. Supply anchorage items to be embedded in, or attached to, other construction without delaying the Work. Provide setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Not applicable.

2.2 MATERIALS AND CONSTRUCTION

A. W-Shapes shall comply with ASTM A992, Grade 50, high strength steel.

B. Steel channels, angles, plates and threaded rods shall comply with ASTM A36, carbon steel.

C. Pipe shall comply with ASTM A53, Grade B.

D. Bolts, nuts, and washers shall meet ASTM A325.
   1. Direct Tension Indicators (DTI's) shall comply with ASTM F959 Type 325 compressible washer type.
   2. Provide beveled washers for S-shapes and channels.

E. Welding materials shall meet AWS D1.1, type required for materials being welded.

F. Grout shall be a non-shrink type, pre-mixed compound consisting of non-metallic aggregate, cement, water-reducing and plasticizing additives, capable of developing a minimum compressive strength of 7,000 psi at 28 days.

G. Primer shall be fast curing, lead and chromate free, universal primer with good resistance to normal atmospheric corrosion, complying with performance requirements of FS-TT-P-664. Primer shall be compatible with finish paint system.

2.3 FABRICATION

A. Fabricate and assemble in shop to greatest extent possible. Fabricate items according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC specifications referenced in this section, and as indicated on final shop drawings.
   1. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials. Coordinate with ENGINEER for fabrication sequence.

2. Identify high-strength structural steel according to ASTM A 6 and maintain markings until structural steel has been erected.
3. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
4. Comply with fabrication tolerance limits of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning. Drill holes in bearing plates.
2. Weld threaded nuts to framing and other specialty items indicated to receive other work.

F. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure, free of marking, burns and other defects.

2.4 FINISH

A. Prepare structural component surfaces in accordance with SSPC specifications. Exposed structural steel shall receive a finish paint system.

B. Surface preparation, primer and finish coating shall be as specified in the specification entitled "Field Painting."

2.5 SHOP CONNECTIONS

A. High Strength Bolts: Shop-install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
B. Welded Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
1. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.

2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Examination
   1. Verify that field conditions are acceptable and are ready to receive work.
   2. Beginning of installation means erector accepts existing conditions.

B. Erection
   1. Allow for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
   2. Erect structural steel accurately in locations and to elevations indicated and according to AISC specs referenced in this section.
   3. Field weld components indicated on Contract Drawings. Components shall be free of primer and paint prior to field welding.
   4. Do not field cut or alter structural members without prior notification to the ENGINEER.
   5. After erection, prime welds, abrasions, and surfaces not shop primed except surfaces to be in contact with concrete.
   6. Level and plumb individual members of structures within specified AISC tolerances.
   7. Align and plumb edges of roof edge angle as dimensioned on Contract Drawings.

C. FIELD CONNECTIONS
   1. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
      a. Fully pre-tensioned connections, as indicated on the Contract Drawings, shall be pre-tensioned and fully tightened ¾ inch dia. A325 bolts. Minimum pretension for fully tightened ¾ inch dia. bolts shall be 28 kips. Direct tension indicators shall be used at these connections to assure that bolts are properly installed and tensioned.
   2. Welded Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work. Field weld components indicated on Contract Drawings. Components shall be free of primer and paint prior to field welding.

3.2 QUALITY CONTROL

A. Testing Agency: The ENGINEER OR the DEPARTMENT will engage a qualified independent testing and inspecting agency to perform special inspections as required by the Building Code of New York State (based on IBC 2018).

B. Bolted Connections: Bolted connections shall be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Welded connections shall be inspected according to AWS D1.1.

D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

+ + END OF SECTION + +

SECTION 05 50 00

METAL FABRICATIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes miscellaneous metal fabrications as shown on the Contract Drawings, complete including fabrication, shop finishing and installation.

1.3 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements are specified herein:

1. American Society for Testing and Materials (ASTM)
    a. ASTM A36 - Carbon Structural Steel.
    b. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
    c. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
    d. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
    e. ASTM A193 – Alloy-Steel and Stainless-Steel Bolting Materials for High-Temperature or High Pressure Service and Other Special Purpose Applications.
    f. ASTM A194 – Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
    g. ASTM A283 – Low and Intermediate Tensile Strength Carbon Steel Plates.
    h. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
    i. ASTM A325 - Structural Bolts, Steel, Heat Treated, 120/105 KSI Minimum Tensile Strength.
    j. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
    k. ASTM A992 - Structural Steel Shapes.
    l. ASTM B177 – Engineering Chromium Electroplating.

2. American Welding Society (AWS)
    a. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
    b. AWS D1.1 - Structural Welding Code-Steel.
3. SSPC - Steel Structures Painting Council.

1.4 SUBMITTALS

A. In addition to those submittals identified in the General Conditions, the following items shall also be submitted:
    1. Shop drawings indicating profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
    2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with the following:
    1. Prepare shop drawings under direct supervision of a Professional Engineer experienced in design of this work and licensed in New York State and submit for review and approval
    2. Use certified welders employed on the Work, with verification of AWS qualification within the previous 12 months.

1.6 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on shop drawings.

PART 2 - PRODUCTS

2.1 MATERIALS AND CONSTRUCTION

A. Structural steel W-shapes shall be ASTM A992, Grade 50.

B. Steel M, S, C, MC and L-shapes, plates and threaded rods shall be ASTM A36.

C. Steel tubing shall be ASTM A500, Grade C.

D. Steel pipe shall be ASTM A53, Grade B, Schedule 40. Bollards shall be Schedule 80.

E. Bolts, nuts, and washers for structural steel connections shall be ASTM A325, galvanized to ASTM A153 for galvanized components.

F. Stainless steel extrusions shall comply with ASTM A269, Type 304 or 316.

G. Stainless steel bolts shall be ASTM A193, Type 304 or 316, grade B8 or B8M.

H. Stainless steel nuts shall be ASTM A194, Type 304 or 316, grade 8 or 8M.

I. Stainless steel washers shall be ANSI B18.22.1.

J. Welding materials shall comply with AWS D1.1 or AWS D1.2; type required for materials being welded.

K. Primer for steel shall be fast-curing, lead and chromate free, universal primer with good resistance to normal atmospheric corrosion, complying with performance requirements of FS-TT-P-664. Primer shall be compatible with finish paint system.

2.2 FABRICATION

A. Fit and shop assemble in largest practical sections for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Exposed mechanical fastenings shall consist of flush countersunk screws or bolts, unobtrusively located, consistent with design of component, except where specifically noted otherwise.

E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FINISHES

A. Surface preparation, primer and finish coatings shall be as specified in the Section entitled “Painting.”

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

C. Items to be galvanized shall be given a minimum 2.0 oz/sq ft zinc coating in accordance with ASTM A123.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examination
   1. Verify that field conditions are acceptable and are ready to receive work.
   2. Beginning of installation means erector accepts existing conditions.

B. Preparation
   1. Clean and strip primed steel items to bare metal where site welding is required.
   2. Supply items required to be cast into concrete or embedded in masonry with setting templates.

C. Erection
   1. Install items plumb and level, accurately fitted, free from distortion or defects.
   2. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
   3. Field weld components indicated on shop drawings.
   4. Perform field welding in accordance with AWS D1.1 or AWS D1.2.

D. Erection Tolerances
   1. Maximum variation from plumb shall be 1/4 inch per 10 feet, non-cumulative.
   2. Maximum offset from true alignment shall be 1/4 inch.

E. Schedule
   1. Ledge and shelf angles, channels and plates not attached to structural framing shall be steel, prime painted.

3.2 QUALITY CONTROL

A. Testing Agency: The ENGINEER or the DEPARTMENT will engage a qualified independent testing and inspecting agency to perform special inspections as required by the Building Code of New York State (based on IBC 2018).

+ + END OF SECTION + +

SECTION 05 52 13

PIPE AND TUBE RAILINGS

PART 1 – GENERAL

1.1 SUMMARY

A. This Section Includes the following as shown on the Contract Drawings, complete including fabrication, shop finishing and installation.
   1. Steel pipe and tube railings.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements are specified herein.
   1. American Society for Testing and Materials (ASTM)
      a. ASTM A 36 - Carbon Structural Steel.
      b. ASTM A 47 - Ferritic Malleable Iron Castings.
      c. ASTM A 48 - Gray Iron Castings.
      d. ASTM A 53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
      e. ASTM A 123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
      f. ASTM A 153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
      g. ASTM A 325 - Structural Bolts, Steel, Heat Traced, 120/105 ksi Minimum Tensile Strength.
      h. ASTM A 500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
      i. ASTM C 1107 - Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
   2. American Welding Society (AWS)
      a. AWS D1.1 - Structural Welding Code – Steel.
   3. Federal Specification
      a. FS TT-P-664D - Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant.
   4. National Association of Architectural Metal Manufacturers
      a. Metal Finishes Manual for Architectural and Metal Products.
   5. Steel Structures Painting Council (SSPC)
   6. Occupational Safety and Health Administration (OSHA), Department of Labor
      a. Code of Federal Regulations (CFR) 29, Part 1910 – Occupational Safety and Health Standards.

1.3 PERFORMANCE REQUIREMENTS

A. All railings shall be in accordance with applicable OSHA regulations.

B. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional ENGINEER, using performance requirements and design criteria indicated.

C. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
   1. Steel: 72 percent of minimum yield strength.

D. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
   1. Handrails and Top Rails of Guards:
      a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
      b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
      c. Uniform and concentrated loads need not be assumed to act concurrently.
   2. Infill of Guards:
      a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
      b. Infill load and other loads need not be assumed to act concurrently.

E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
   1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

F. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 QUALITY ASSURANCE

A. Obtain each type of handrail and railing through one source from a single manufacturer.

B. Welding Qualifications: Quality procedures and personnel according to the following:
   1. AWS D1.1, “Structural Welding Code – Steel”

1.5 SUBMITTALS

A. In addition to those submittals identified in the General Provisions, the following shall also be submitted.

1. Shop Drawings approved by a qualified professional engineer licensed in New York State indicating fabrication and installation of handrails and railings. Include plans, elevations, sections, component details, and attachments to other Work.
    a. Indicate welded connection using standard AWS A2.0 welding symbols. Indicate net weld lengths.
    b. Welding certificates.
2. Grout, anchoring cement, and paint products.

B. LEED Submittals:
1. Product Data for Credit MR 4.1and Credit MR 4.2: Indicating percentages by weight of postconsumer and preconsumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.

1.6 STORAGE

A. Store handrails and railings in a dry, well-ventilated, away from uncured concrete and masonry and protected from weather, moisture, soiling, abrasion extreme temperature and humidity.

1.7 PROJECT CONDITIONS

A. Where handrails and railing systems are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.8 COORDINATION AND SCHEDULING

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Steel Pipe and Tube Railings: Not Applicable

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 STEEL AND IRON

A. Recycled Content of Steel Products: Provide products with average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.

B. Tubing: ASTM A 500 (cold formed) [orASTM A 513.

C. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
   1. Provide galvanized finish for exterior installations and where indicated.

D. Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.4 FASTENERS

A. General: Provide the following:
   1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5 for zinc coating.
   2. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.

C. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

C. Fasteners for Interconnecting Railing Components:
   1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
   2. Provide Phillipsor square or hex socket flat-head machine screws for exposed fasteners unless otherwise indicated.
   3. Material for Exterior Locations and Where Stainless Steel is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.5 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Shop Primers: Provide primers that comply with Division 09 Section "Field Painting."

E. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
   1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

E. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

F. Shop Primer for Galvanized Steel: Water based galvanized metal primer complying with MPI#134.

G. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

H. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

I. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
   1. Water-Resistant Product: At exterior locations and where indicated provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.6 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling

limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate railings with either welded or nonweldedconnections unless otherwise indicated.

H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove flux immediately.
   4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
   1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

J. Form changes in direction as follows:
   a. As detailed.
   b. By bendingorby inserting prefabricated elbow fittings.

J. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

K. Close exposed ends of railing members with prefabricated end fittings.

L. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

M. For removable railing posts, fabricate slip-fit sockets from galvanized steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height. Provide socket covers designed and fabricated to resist being dislodged.

N. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.7 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.8 STEEL AND IRON FINISHES

A. Galvanized Railings:
   1. Hot-dip galvanized exterior steel and iron railings, including hardware, after fabrication.
   2. Hot-dip galvanized indicated steel and iron railings, including hardware, after fabrication.
   3. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
   4. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
   5. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
   6. Fill vent and drain holes that will be exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

D. For nongalvanized steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors to be embedded in exterior concrete or masonry.

E. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with requirements indicated below:
   1. Exterior Railings: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
   1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
   2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
   3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).

B. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

D. Adjust railings before anchoring to ensure matching alignment at abutting joints.

E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.

B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.

3.4 ANCHORING POSTS

A. Use metal sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.

B. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.

C. Cover anchorage joint with flange of same metal as post, attached to post with set screws.

D. Leave anchorage joint exposed with 1/8-inch (3-mm) buildup, sloped away from post.

E. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
   1. For steel pipe railings, weld flanges to post and bolt to metal supporting surfaces.

F. Install removable railing sections, where indicated, in slip-fit metal sockets cast in concrete.

3.5 ATTACHING RAILINGS

A. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and welded to railing ends or connected to railing ends using nonwelded connections.

3.6 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
   1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.7 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

+ + END OF SECTION + +

SECTION 09 99 00

FIELD PAINTING

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes Field Painting of all work indicated on the Contract Drawings and specified herein.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. C2246 - Freeze-Thaw Test
      b. D2247 - Humidity Test
      c. B117 - Salt Spray Test
      d. E84 - Surface Burning Characteristics Test
      e. D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products
      f. D2805 - Contrast Ratio
      g. D1308 - Stain Resistance
      h. D4060 - Abrasion
      i. D4541 - Adhesion
      j. D522 - Conical Mandrel Elongation
   2. Standards of the Society for Protective Coatings (SSPC)
   3. National Association of Corrosion Engineers (NACE)

1.3 QUALITY ASSURANCE

A. All materials shall remain in their original containers with manufacturer's label intact. Manufacturer's name, product name and number, and color and batch number, shall appear on the label.

B. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.

1.4 SUBMITTALS

A. All field painting shall be by an approved painting CONTRACTOR.

B. In addition to conforming to the requirements described in the General Conditions, submit a complete schedule of paint systems and surface preparation proposed.
   1. List all interior and exterior surfaces and all major equipment to be painted.
   2. The schedule is to reflect the approved manufacturer's recommendations. Schedule shall include certification that a qualified manufacturer's representative has reviewed and approved the schedule. The qualified manufacturer's representative shall hold current NACE certification as a Coating Inspector, Protective Coatings Specialist, or Materials Selection/Design Specialist.
   3. As a minimum, schedule shall itemize each painted item or surface and shall contain the following information in tabular format:
      a. Type of surface preparation (note whether shop or field preparation).
      b. Paint system (generic name).
      c. Prime coat (product, number of coats, dry mil thickness per coat, square feet coverage per gallon).
      d. Intermediate coat, if required (product, number of coats, dry mil thickness per coat, square feet coverage per gallon).
      e. Finish coat (product, number of coats, color, dry mil thickness per coat, square feet coverage per gallon).
      f. Painting status at time of installation.
      g. Remarks (any special treatment or application requirements, etc.)
   4. The schedule shall follow the sample format attached to the end of this section. It shall also contain the name of the paint manufacturer and name, address, and telephone number of the manufacturer's representative who will inspect the work. The schedule shall be in conformance with the criteria of Tables A-1, A-2, and A 3 and the schedules contained in the Contract Drawings. Manufacturer's recommended dry mil thickness shall be incorporated into the schedule. Schedule shall be submitted to the ENGINEER as soon as possible following the award of Contract so that the approved schedule may be used to identify colors and to specify shop paint systems for fabricated equipment.
   5. Submit color chips for selection. Color names and/or numbers shall be identified according to the appropriate color chart provided by the manufacturer.
   6. Manufacturer's descriptive data fully describing each product to include solids by volume and VOC ratings.
   7. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of the referenced standards and this specification.
   8. Manufacturer's application instructions.
   9. Color charts illustrating range of colors available for selection.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project:
   1. Sherwin Williams Company
   2. PPG Paints
   3. Tnemec Company

2.2 MATERIAL

A. Paint – Refer to Table A-1. Coating Systems Schedule.

B. All materials used on this project, whether shop applied by equipment manufacturer or field applied by CONTRACTOR, shall comply with all current federal, state and local Clean Air Act-related regulations. It shall be the responsibility of equipment manufacturers to comply with laws in effect at their painting facilities. Where laws or regulations prohibit field applications of any scheduled paint product, CONTRACTOR shall submit for Engineer's approval, an alternate product of similar performance characteristics which complies with those laws. If approved, those products shall be provided at no additional cost to the DEPARTMENT.

2.3 EXTRA STOCK

A. One gallon of unopened paint, in each type and color specified, shall be furnished to the DEPARTMENT. Multi-component paints shall be supplied as a complete kit.

PART 3 – EXECUTION

3.1 PRE-APPLICATION

A. Examine surfaces to be coated and report any conditions that would adversely affect the appearance or performance of the coating systems, and which cannot be put into an acceptable condition by the preparatory work specified.

B. The CONTRACTOR sure that moisture content of surfaces is within manufacturer's recommendations.

C. Do not apply coatings when relative humidity is above 85 percent or when temperatures are less than 5 degrees F above the dew point. Do not apply coatings to damp or wet surfaces unless product is specifically formulated to do so.

3.2 SURFACE PREPARATION

A. All surface to be painted shall be prepared with the objective of obtaining a clean and dry surface free from dust, rust, scale and all foreign matter. No painting shall be done before surfaces meet requirements of paint manufacturer.
   1. Remove dust and loose material by dusting, sweeping, vacuuming, or blowing with high-pressure air.
   2. Remove oil, wax, and grease in accordance with the manufacturer's recommendations.

B. Metals
   1. All ferrous metal to be primed shall have all rust, dust, and scale removed by abrasive blast cleaning in accordance with SSPC (The Society of Protective Coatings) & NACE (National Association of Corrosion Engineers) procedures designated in the Specifications or on Contract Drawings. Cleaned metal shall be primed or pretreated immediately after cleaning to prevent rusting. If rusting beyond ASTM Rust Grade 8 occurs in the field, rusted portions of shop-primed ferrous metals shall be field-cleaned in accordance with SSPC/NACE blast cleaning specification appropriate for service and immediately field primed.
   2. All ferrous metals not primed in shop shall be abrasive blast cleaned to SSPC-SP10/NACE 2 Near White Blast or an SSPC-SP6NACE 3 Commercial Blast, depending on exposure, prior to application of any primer, pretreatment, or paint.

C. Nonferrous Metals - All nonferrous metals, whether shop or field primed, shall be solvent cleaned (SSPC-SP1) prior to application of primer.

D. Prior Coating Old paint surfaces on concrete, ferrous metal, and nonferrous metal shall be prepared by abrasive blast cleaning in accordance with proper SSPC/NACE method for the service.

E. Touchup Any abraded areas of shop or field applied coatings shall be touched up with the same type of shop or field applied coating, even to the extent of applying an entire coating, if necessary. Touchup coatings and surface preparations shall be in addition to and not considered as the first field coat.

F. Casting (cast ferrous and nonferrous metals) Surfaces of castings shall be prepared for painting by using a brush applied filler and/or knife applied filler, as required. These fillers are not to be used to conceal cracks, gas holes, or excessive porosity. Casting shall receive one coat of primer with a minimum thickness of 2 mils. Sufficient drying time must be allowed before further handling.

3.3 APPLICATION

A. CONTRACTOR shall be responsible for cleanliness of all painting operations and use covers and masking tape to protect work. CONTRACTOR shall protect not

only his own work, but also all adjacent work and materials by adequate covering with drop cloths.

B. CONTRACTOR shall maintain a daily epoxy coatings induction record (log) showing each epoxy paint mixing event in the format demonstrated at the end of this section. A signed copy of this log shall be turned over to the ENGINEER's field representative before the end of each working day during which epoxy coatings are mixed or applied.

C. Any unwanted paint shall be carefully removed without damage to finished paint or surface. If damage does occur, the entire surface adjacent to and including damaged area shall be repainted without visible lap marks.

D. Do not use plumbing fixture or waste piping for mixing of paint or disposal of any refuse material. All waste shall be disposed of properly into a suitable receptacle located outside of building.

E. All paint shall be applied without runs, sags, thin spots, or unacceptable marks. Paint shall be applied at the rate specified to achieve minimum dry mil thickness required. Additional coats of paint shall be applied, if necessary, to obtain dry film thickness specified.

F. Application shall be by spraying where recommended by manufacturer. If material has thickened or must be diluted for application by spray gun, each coat shall be built up to the same film thickness achieved with undiluted brushed-on material. Where thinning is necessary, such thinning shall be done in strict accordance with manufacturer's instructions.

G. A minimum of 24 hours drying time shall elapse between application of any two coats of paint on a particular surface, unless otherwise recommended by coating manufacturer. Longer drying times may be required for abnormal conditions in concert with manufacturer's recommendations.

H. No painting whatsoever shall be accomplished in rainy or excessively damp weather when the relative humidity exceeds 85 percent, or when the general air temperature cannot be maintained at 50 degrees F (10 degrees C) or above throughout entire drying period.

3.4 FINISHING SHOP PAINTED MECHANICL AND ELECTRICAL EQUIPMENT

A. All fabricated steel work and equipment delivered to job site shall receive at factory at least one shop coat of approved prime paint in concert with paint system required by these specifications. All shop-painted items shall be properly packaged and stored until they are incorporated in work. Any painted surfaces that are damaged during handling, transportation, storage, or installation shall be cleaned, scraped, and patched before field painting begins so that work shall be equal to original

painting at shop. Equipment or steel work that is to be assembled on the site shall likewise receive a minimum of one shop coat of paint at factory. Paint and surface preparation used for shop coating shall be identified on equipment shop drawings submitted to ENGINEER.

B. Where exact identity of shop primer cannot be determined, or where primer differs from that specified, CONTRACTOR shall perform blast cleaning appropriate for service, followed by specified paint system. In lieu of above, CONTRACTOR has the option of shipping bare metal to job site and performing appropriate blast cleaning, followed by field prime coat of specified material immediately thereafter.

3.5 FIELD QUALITY CONTROL

A. Prior to receiving a Certificate of Substantial Completion, CONTRACTOR shall arrange for manufacturer to inspect the application of his product and shall submit his report to ENGINEER identifying products used and verifying that said products were properly applied and that paint systems were proper for the exposure and service. The manufacturer's representative shall also certify that all coats in each system are compatible with one another.

B. Each field coat of priming and finishing paint shall be inspected by the ENGINEER or his authorized representative before the succeeding coat is applied. The CONTRACTOR shall follow a system of tinting successive paint coats so that no two coats for a given surface are exactly the same color. Areas to receive black protective coatings shall be tick-marked with white or actually gauged as to thickness when finished.

3.6 SHOP PAINTING

A. Shop painting of manufactured items (such as lockers, furnishings, and electrical and mechanical equipment) is not included in the scope of this work, unless specifically scheduled; as in the case of fabricated steel items (steel stairs, structural and miscellaneous steel), steel doors and frames). Manufactured items shall be finished as noted in the specification section related to that item.

3.7 DESCRIPTION OF WORK

A. The Interior and Exterior Coating System Schedules (Table A-1) and Piping Color and Label Schedule (Table A-2) are not intended to list every structure or equipment item to be painted or labeled. All new and existing structures, equipment, and appurtenances including all items furnished under the contract shall be painted by the CONTRACTOR, in accordance with the most applicable category from Table A-1. New and existing concrete tanks are not to be painted unless specifically identified on the Contract Drawings.

1. For application and curing of epoxy products at temperatures of 35 to 50 degrees F, use N69F Hi-Build Epoxoline II in lieu of N69 Hi-Build Epoxoline II and N140F Pota-Pox Plus in lieu of N140 Pota-Pox Plus.

TABLE A-1
COATING SYSTEM SCHEDULE

Galvanized Steel - Exterior

SYSTEM M-6	SHERWIN WILLIAMS	PPG	TNEMEC	REMARKS
Surface preparation	SSPC-SP 16	SSPC-SP 16	SSPC-SP 16	
Prime coat	Corothane 1 Gal-Va-Pac Zinc Primer B65G00010	Amercoat 68 HS 2.5-3.5 mils	90-97 Tneme-Zinc 2.5-3.5 mils	--
Intermediate coat	Macropoxy 646 FC B67W00235	Amerlock 2/400 4.0-8.0 mils	Series N69-Color Hi-Build Epoxoline II 3.0-5.0 mils	--
Finish coat	Hi-Solids Polyurethane 250	Pitthane Ultra 2.0-3.0 mils	Series 1075-Color Endura-Shield II 2.0-3.0 mils	Total DFT – 6.5 mils minimum

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PAINT SCHEDULE

Reviewed by Paint Mfg. Rep. _____

Interior or Exterior Surfaces to Be Painted and Major Equipment	Surface Preparation		Paint System	Prime Coat Product, No. of Coats, Dry Film Thickness, and Color	Intermediate Coat Color	Finish Coat Color	Painting Status	Remarks (Any Special Treatment or Application Requirements)
	Shop	Field						

DAILY EPOXY COATINGS INDUCTION RECORD

Date	Product	Location	Ambient Temperature (^{O}F)	Mix Start Time	Induction End Time	Total Induction Time Before Use

+ + END OF SECTION + +

SECTION 31 05 16

AGGREGATE FOR EARTHWORK

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes select fill materials used as either embedment or special backfill, as specified, as directed by the ENGINEER, or as shown on the Contact Drawings.
B. Acceptable alternate New York State Department of Transportation (NYSDOT) specified materials are included. Any other alternatives requested shall be submitted for approval.

1.2 REFERENCES

A. Materials and installation shall comply with the latest revision of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
    1. ASTM International- D422 - Method for Particle-Size Analysis of Soil

1.3 RELATED WORK ELSEWHERE

A. 31 05 17 Evapotranspiration Cover Layer
B. 31 20 00 Earth Moving
C. 31 23 01 Structural Excavation and Fill

1.4 SUBMITTALS

A. The following items shall be submitted:
    1. The name and location of the source of each material.
    2. Samples and test reports of each material, including gradation, sieve analyses, and type of material.
    3. An affidavit from the Owner for each product stating that the site of the source was never used as a dump site for chemical, toxic, hazardous, or radioactive materials and it is not now or ever been listed as a suspected depository for chemical toxic, hazardous, or radioactive materials by any federal, state, or other governmental agency, department, or bureau.

1.5 DEFINITIONS

A. Embedment or Lining

1. Any type granular material specified or directed to be placed below an imaginary line drawn one foot above the inside diameter of the pipe crown and within the trench limits.

B. Special Backfill
   1. Pipelines
      a. Any select fill material specified or directed to be placed above an imaginary line drawn one foot above the inside diameter of the pipe crown and within the trench limits.
   2. Structures
      a. Any select fill material specified or directed to be placed within the excavation limits, either in, under or adjacent to the structure.

C. Special Granular Material
   1. Special granular material shall mean any of the granular materials listed below or other materials as ordered by the ENGINEER.

PART 2 – PRODUCTS

2.1 SELECT FILL MATERIALS

A. Type A Select Fill (or alternate: NYSDOT Item No. 203.07 with gradations identified below)

1. Crushed Gravel

   a. Thoroughly washed crushed, durable, sharp angled fragments of gravel free from coatings. Crushed particles shall be a minimum of 85% by weight of the particles with at least two fractured faces. The total area of each fractional face shall exceed 25% of the maximum cross-sectional area of the particle.

   b. Crushed Gravel shall have the following gradation by weight:

% Passing	SIEVE
100	1½-inch
0-25	¾-inch
0-5	½-inch

   c. NYSDOT Material Designation 703-0202, meeting No. 2 screen-size designation.

B. Type B Select Fill (or alternate: NYSDOT Item No. 203.07)

1. Crushed Stone

   a. Thoroughly washed clean, sound, tough, hard crushed limestone or equal free from coatings. Gradation for crushed stone shall be the same as specified for Type A Select Fill.

   b. NYSDOT Material Designation 703-0201, meeting No. 2

screen-size designation.

C. Type C Select Fill (or alternate: NYSDOT No.1 Stone with gradations identified below)

1. Crushed Stone

a. Thoroughly washed, clean, sound, tough, hard, crushed limestone or equal free from coatings. It shall have the following gradation by weight.

% Passing	SIEVE
100	1-1/2-inch
90-100	1-inch
0-15	1/4-inch

b. NYSDOT Material Designation 703.0201, meeting No. 2 screen-size designation.

D. Type D Select Fill

1. Washed Sand

a. Washed coarse sand having the following gradation by weight:

% Passing	SIEVE
100	3/8-inch
95-100	No. 4
80-100	No. 8
50-85	No. 16
25-60	No. 30
10-30	No. 50

E. Type E Select Fill

1. Run-of-Bank Gravel

a. Run-of-bank gravel or other acceptable granular material free from organic matter with the following gradation by weight, as determined by washing through the sieve in accordance with ASTM D422.

% Passing	SIEVE
100	1-1/2- inch
30–65	¼-inch
0-10	No. 200

F. Type F Select Fill (or Alternate: NYSDOT Item No. 304.12; Subbase Course, Type 2)

1. Run-of-crusher Stone

a. Run-of-crusher hard durable limestone, or equal, having the following gradation by weight:

% Passing	SIEVE
100	2- inch
25–65	¼-inch
5-40	No. 40
0–10	No. 200

b. NYSDOT Material Designation 703.02, meeting the requirements of Section 304 Subbase Course.

G. Type G Select Fill

1. A mixture of Type E Select Fill material and Portland Cement mixed in a ratio of 15:1 and placed in a dry state.

H. Type H Select Fill

1. Habitat Subgrade

a. Habitat subgrade material fraction passing the #40 sieve shall have a soil pH from 5.5 to 7.5 and soil organic matter concentration of 0.5 to 6%. The Habitat Subgrade Material shall have the following gradation by weight:

% Passing	SIEVE
100	4- inch
30–65	¼-inch
15–60	No. 40
0–20	No. 200

I. Type I Select Fill

Rip Rap

a. Rip Rap shall meet the requirements of New York State Department of Transportation item number 620.04M with the following gradation adjustment:

% Passing	**PART 2 - SIEVE**
100	18-inch
0–5	10-inch

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install special backfill in accordance with the backfilling provisions of the Section entitled "Earth Moving", where specified or directed.

3.3 SETTLEMENTS

A. Any settlements in the finished work shall be repaired by the CONTRACTOR to establish the proposed or existing grade, as the case may be.

B. The CONTRACTOR shall repair all settlements. No additional cost will be made for settlement repair.

+ + END OF SECTION + +

SECTION 31 05 17

EVAPOTRANSPIRATION COVER

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers the backfilling, and compacting including the loosening, removing, working, transporting, storage, fill, and disposal of all materials necessary for the construction of the Evapotranspiration (ET) Cover above the geotextile demarcation fabric as shown on the Contract Drawings or specified or as directed by the ENGINEER. The construction of the ET Cover will consist of 18 inches of Upland Disposal Site 4-26 (UDS) material and 6 inches of amended UDS material.

1.2 REFERENCES

The publications listed below form a part of the specification to the extent referenced. The publications are referred to in the text by basis designation only. Use the latest revision date available unless otherwise noted.

A. American Society for Testing and Materials (ASTM).

ASTM D422 Method for Particle Size Analysis of Soil (including Hydrometer)

ASTM D698 Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort

ASTM D1556 Test Method for Density and Unit Weight of Soil In Place by the Sand-Cone Method

ASTM D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort

ASTM D2167 Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method

ASTM D6938 Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)

ASTM D3017 Test Method for Water Content of Soil and Rock in Place by Nuclear methods (Shallow Depth)

ASTM D4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. 31 05 16 Aggregates for Earthwork

B. 31 20 00 Earth Moving

C. 32 92 00 Lawns and Meadows

1.4 SUBMITTALS

A. Submit the following in accordance with the General Conditions.
   1. UDS Construction Work Plan

      Prior to commencement of work, the CONTRACTOR shall develop and submit methods and sequencing of all intended operations hereinafter referred to as the UDS Construction Work Plan. The UDS Construction Work Plan shall include, but not be limited to, all testing, methods for removing and handling of material, transportation, equipment, stockpiling, drying, , erosion and sediment controls and requirements for all other associated construction activities. Construction activities shall not be initiated until the methods and sequencing of all operations have been reviewed and accepted by the ENGINEER.

   2. Documentation that the ET Cover material meets the requirements of this section.
   3. All mining and borrow permits required by local, State, and Federal agencies.
   4. Results of laboratory testing

PART 2 - PRODUCTS

2.1 MATERIALS

A. The evapotranspiration cover material shall be obtained from the Canal Corp Upland Disposal Site (UDS) 4-26 site.

B. The evapotranspiration cover material must be uniform in composition and texture, clean and free from stones, weeds, stumps, roots, toxic substances, and debris or similar substances. The ET Cover material shall have physical and chemical characteristics conducive to the establishment of vegetation. The ET Cover material shall have the following gradation by weight:

% Passing	Sieve
100	2-inch
40-80	No. 200
5-20	0.001 mm

This analysis will be performed in accordance with ASTM D422.

C. The CONTRACTOR shall submit testing methods (prior to conducting tests), test results, and a certification from the approved soils testing laboratory that the ET Cover material meets the requirements of this section. The results of all soils testing specified herein shall be submitted to the ENGINEER for review.

D. Prior to installation of the ET Cover material, the material from the borrow source shall be tested in accordance with the following:

Parameter	Standard	Criteria
Particle Size Analysis	ASTM D422	Material proposed for the evapotranspiration cover: % Passing — Sieve 100 — 2 -inch 40 - 80 — No. 200 5-20 — 0.001mm
Compaction Characteristics	ASTM D1557	Develop compaction characteristics

E. During installation of the ET Cover material, the material from the borrow source shall be tested in accordance with the following standards and frequencies:

Parameter	Standard	Minimum Frequency	Criteria
Particle Size Analysis	ASTM D422	Once per 10,000 cy	Evapotranspiration cover: % Passing — Sieve 100 — 2-inch 80 — No. 200 5-20 0.001mm
Compaction Characteristics	ASTM D1557	Once per 10,000 cy	
In-Place Density	ASTM D6938	5 tests per acre per lift of soil placed	90% of the Standard Proctor Compaction as determined by ASTM D698
In-Place Moisture Content	ASTM D3017	5 tests per acre per lift of soil placed	Monitor compaction
Liquid Limit, Plastic Limit, Plasticity Index	ASTM D4318	Once per 10,000 cy	Monitoring consistency of borrow source

A minimum of one (1) test for each parameter shall be performed.

F. The results of all testing shall be submitted to the ENGINEER for review. Any materials not meeting the requirements of this section shall be removed from the project site at no cost to the Department.

G. If at any time during this Contract the ENGINEER requests further soils testing to confirm that the characteristics of the ET Cover material obtained from the UDS area have not changed, the CONTRACTOR shall perform these tests at no additional cost to the Department.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The Contractor shall make the canal material suitable for placement.

B. Placement of the ET cover material shall be in accordance with the provisions of this Section. Any ET cover material which cannot comply with the provisions of this Section will be considered as spoil and will be removed and disposed of at the CONTRACTOR's expense.

C. The ET Cover material shall be constructed by placing suitable material in lifts. The first lift of the ET Cover material above the geotextile demarcation layer shall have a thickness of 12 inches and shall be free from stones greater than 2 inch. Compaction of the lift shall be accomplished by a smooth drum vibratory roller or other suitable equipment. Compaction of the ET Cover material shall be a minimum 90 percent of the Standard Proctor Compaction as determined by ASTM D698.

D. ET Cover material containing frozen soil, or ice shall not be placed.

E. Compaction or consolidation achieved by traveling trucks, machines, and other equipment will not be accepted unless such procedures are reviewed by the ENGINEER and proper compaction criteria are achieved.

F. Any damage to the completed surface of the ET Cover layer, whether caused by erosion, the CONTRACTOR's work, or any other occurrences, shall be immediately repaired and maintained in good condition until completion of the work.

G. Top 6 inches of ET Cover material will be amended as required in accordance with Technical Specification 32 92 00 Lawns and Meadows, Part 2 Products, Section 2. Materials.

+ + END OF SECTION + +

SECTION 31 11 00

CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section covers the clearing of an area as shown on the Contract Drawings or as required by the Work. The CONTRACTOR shall coordinate with the ENGINEER and the DEPARTMENT to determine the extent of removals and clearing to be performed.

1.2 PROTECTION

A. The CONTRACTOR shall maintain and protect all benchmarks, monuments, and reference points. If the benchmarks, monuments, or reference points are disturbed or destroyed, they shall be replaced to the satisfaction of the ENGINEER and/or the DEPARTMENT, at the CONTRACTOR's expense.

B. The CONTRACTOR shall protect and barricade, where necessary, existing trees, shrubs, drainage swales, pavement, and other features outside the work limits from damage due to this construction.

C. The CONTRACTOR shall protect and barricade, where necessary, those features inside the work limits that are designated for special protection by the Contract Drawings.

D. The CONTRACTOR shall protect existing trees and other vegetation indicated to remain in place against unnecessary cutting, breaking, or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling of materials within dripline.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. 31 25 00 Erosion and Sediment Control

B. 32 01 00 Restoration of Surfaces

1.4 REGULATORY AGENCIES

A. State and local requirements shall govern the disposal of materials from all clearing operations.

B. The CONTRACTOR is prohibited from burning on or off the job site.

PART 2 - PRODUCTS

2.1 MATERIALS

A. None Required.

PART 3 - EXECUTION

3.1 SITE CLEARING

A. The limits of clearing shall be as indicated by the limits of work on the Contract Drawings. The CONTRACTOR shall verify these limits with the ENGINEER in the field prior to the start of work.

B. No clearing and grubbing operations will be performed until the CONTRACTOR's erosion and sediment control and dust measures are in place.

C. All trees regardless of caliper and brush shall be cut and/or removed unless specifically directed to remain within clearing limits. All trees shall be cut 6" above grade, all stumps are to be left in place except those required to be removed to suit excavation requirements.

D. No stump removal outside of earthwork areas is required.

E. Trees and other miscellaneous features damaged or removed during the performance of the Work that are not designated for removal shall be replaced by the CONTRACTOR to the satisfaction of the ENGINEER at no cost to the DEPARTMENT.

F. Due to the potential presence of protected bat species, tree clearing will only occur from November 1 through March 31.

G. Cleared woody vegetation shall be stockpiled as needed to complete woody debris placement specified in Section 32 72 00, "Habitat Restoration".

3.2 CHIPPING

A. The CONTRACTOR shall chip all trees, and shrubs within the area indicated on the Contract Drawings or as requested by the ENGINEER

B. All chips from the chipping process shall remain on site.

3.3 GRUBBING

A. The limits of grubbing shall coincide with the limits of work as shown on the Contract Drawings.

B. Erosion and sediment control facilities shall be in place, and the sedimentation traps shall be constructed prior to grubbing within the limits of the proposed dump cover system.

C. The CONTRACTOR shall remove and grind all stumps, including roots and matted roots, to suit excavation requirements and requirements for construction of the evapotranspiration cover. Unless further excavation is required, depressions made by grubbing shall be filled and compacted with common earth to the density of the surrounding soil such that the surface conforms to the contour of the adjacent ground.

D. All stumps shall be completely removed when located within the limits of the access drive and within ten (10) feet of the footprint of the cover system and other structures.

E. The CONTRACTOR shall provide erosion control measures as shown to control water-borne sediments.

3.4 TRIMMING

A. None Required.

3.5 REMOVALS

A. Cleared trees, branches, and brush will be chipped/shredded and used as mulch or left on-site in a separate stockpile area to be designated by the ENGINEER and DEPARTMENT.

B. All other cleared and grubbed material shall be disposed of off-site to an approved location by the CONTRACTOR.

3.6 DISPOSAL

A. No offsite disposal of timber and other materials resulting from clearing operations shall not be allowed.

B. Burning of waste materials is prohibited both on-site and off-site.

C. Chipped trees or brush shall not be disposed of in any wetland areas or within 100 feet of any water ways. All wood chips shall be placed within the limits of the evapotranspiration cover.

D. Solvents, oils, and other materials used in the course of the Work which may be harmful to the environment shall be properly disposed of in appropriate containers and removed from the site. Any soils contaminated by the CONTRACTOR's operation shall be removed and replaced with topsoil at the CONTRACTOR's expense. Such materials and contaminated soils shall be disposed of in accordance with state and local requirements.

+ + END OF SECTION + +

SECTION 31 20 00

EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes excavation and backfilling including the loosening, removing, refilling, transporting, storage and disposal of all materials classified as "earth" necessary to be removed for the construction and completion of all work under the Contract, and as shown on the Contract Drawings, specified or directed.

B. Where certain features related to Earthwork are shown on the Contract Drawings, the CONTRACTOR shall be entirely responsible for final sequencing, scheduling, coordinating and planning the actual areas and their implementation in accordance with all laws and property ownership. These may include storage and staging areas, temporary stockpile areas, vehicle parking areas, temporary haul roads for construction ingress and egress, and other similar zones and land uses.

1.2 REFERENCES

A. Comply with the latest revision of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. ASTM International
      a. A328 Specification for Steel Sheet Piling
      b. D1556 Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
      c. D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3) (2,700 kN-m/m3)
      d. D1760 Specification for Pressure Treatment of Timber Products
      e. D2922 Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
      f. Varies, Geotextile Specification Standards (as shown herein)

1.3 DEFINITIONS

A. Excavation (including Trenching)
   1. Grubbing, stripping, removing, storing and re-handling of all materials of every name and nature necessary to be removed for all purposes incidental to the construction and completion of all the work under construction.
   2. All sheeting, sheet piling, bracing and shoring, and the placing, driving, cutting off and removing of the same.
   3. All diking, ditching, fluming, coffer-damming, pumping, bailing, draining, well pointing, or otherwise for disposing of water.

4. The removing and disposing of all surplus materials from the excavations in the manner specified.
5. The maintenance, accommodation and protection of traffic and pedestrian travel and the temporary paving of highways, roads and driveways.
6. The supporting and protecting of all curbs, sidewalks, pavements, overhead wires, poles, trees, vines, shrubbery, pipes, sewers, conduits or other structures or property in the vicinity of the work, whether over or underground or which appear within or adjacent to the excavations, and the restoration of the same in case of settlement or other injury.
7. All temporary bridging and fencing and the removing of same.

B. Earth
   1. All materials such as sand, gravel, clay, loam, ashes, cinders, pavements, muck, roots or pieces of timber, soft or disintegrated rock, not requiring blasting, barring, or wedging from their original beds, and specifically excluding all ledge or bedrock and individual boulders or masonry larger than one-half cubic yard in volume.

C. Backfill
   1. The refilling of excavation and trenches to the line of filling indicated on the Contract Drawings or as directed using materials suitable for refilling of excavations and trenches; and the compacting of all materials used in filling or refilling by rolling, ramming, watering, puddling, etc., as may be required.

D. Spoil
   1. Surplus excavated materials not required or not suitable for backfills or embankments.

E. Embankments
   1. Fills constructed above the original surface of the ground or such other elevation as specified or directed.

F. Limiting Subgrade
   1. The underside of the pipe barrel for pipelines
   2. The underside of footing lines for structures

G. Excavation Below Subgrade
   1. Excavation below the limiting subgrades.
   2. Where materials encountered at the limiting subgrades are not suitable, the CONTRACTOR shall excavate to such new lines and grades as required

1.4 COORDINATION REQUIREMENTS

A. Coordinate layout and installation of all Contract work with earthwork activities and space requirements.

1.5 SUBMITTALS

A. Sheeting and bracing drawings stamped and signed by a licensed Professional ENGINEER in the State of New York, if sheeting and bracing is required.

B. A written Construction Water Management Plan if removal of water is required.

C. A representative list of satisfactory and similar operations, including contact names and telephone numbers shall be submitted, if well point dewatering is required.

PART 2 - PRODUCTS

2.1 WOOD SHEETING AND BRACING

A. Wood sheeting and bracing shall be sound and straight; free from cracks, shakes and large or loose knots; and shall have dressed edges where directed.

B. It shall conform to National Design Specifications for Stress Grade Lumber having a minimum fiber stress of 1200 pounds per square inch.

C. Sheeting and bracing to be left in place shall be pressure treated in accordance with ASTM D1760 for the type of lumber used and with a preservative approved by the Department’s Designated Representative.

2.2 STEEL SHEETING AND BRACING

A. Steel sheeting and bracing shall be sound.

B. It shall conform to ASTM A328 with a minimum thickness of 3/8 inch.

PART 3 - EXECUTION

3.1 UNAUTHORIZED EXCAVATION

A. Whenever excavations are carried beyond or below the lines and grades shown on the Contract Drawings, or as given or directed by the Department’s Designated Representative, all such excavated space shall be refilled with select fill, controlled low strength material, concrete or other materials as the Department’s Designated Representative may direct. All backfilling and compacting of unauthorized excavations shall be at the CONTRACTOR's expense.

B. All material which slides, falls or caves into the established limits of excavations due to any cause whatsoever, shall be removed and disposed of at the CONTRACTOR's expense and no extra compensation will be paid to the CONTRACTOR for refilling of the void areas left by the slide, fall or cave-in, including any materials or select fill required.

3.2 CONTROL OF WATER

A. General
   1. The CONTRACTOR shall at all times provide and maintain proper and satisfactory means and devices for the control and removal of all water entering the excavations and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of pipes, structures, or other work.
   2. Unless otherwise specified, all excavations which extend down to or below the static groundwater elevations shall be de-watered by lowering and maintaining the groundwater beneath such excavations at all times when work thereon is in progress, during subgrade preparation and the placing of the structure or pipe thereon.
   3. Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least 24 hours after placement, and no stream of water shall be allowed to flow over such work until such time as the Department's Designated Representative may permit.
   4. Where the presence of fine-grained subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick or unstable condition, the CONTRACTOR shall install and operate a well point system to prevent the upward flow of water during construction.
   5. Water pumped or drained from excavations, or any sewers, drains or water courses encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads, drives, and water courses
   6. All dewatering activities shall be conducted in accordance with local, state or federal laws and permits. All such discharges shall be controlled and pre-treated as necessary.
   7. Any damage caused by or resulting from dewatering operations shall be the sole responsibility of the CONTRACTOR.

B. Work Included
   1. Preparation and submittal of a written "Construction Water Management Plan" for manage and control dewatering activities.
   2. The construction and removal of cofferdams, sheeting and bracing, and the furnishing of materials and labor necessary thereof.
   3. The excavation and maintenance of ditches and sluiceways.
   4. The furnishing and operation of pumps, well points, and appliances needed to maintain control of water related to the work in a satisfactory manner.
   5. The installation and removal of temporary sediment and discharge control devices.

C. Well Point Dewatering Systems
   1. Installation
      a. The well point system shall be designed and installed by or under the supervision of an organization whose principal business is well pointing

and which has at least five consecutive years of similar experience and can furnish a representative list of satisfactory similar operations, including contact names and telephone numbers.

b. Well point headers, points and other pertinent equipment shall not be placed within the limits of the excavation in such a manner or location as to interfere with the laying of pipe or trenching operations or with the excavation and construction of other structures.

c. Detached observation wells of similar construction to the well points shall be installed at intervals of not less than 50 feet along the opposite side of the excavation from the header pipe and line of well points, to a depth of at least 5 feet below the proposed excavation. In addition, one well point in every 50 feet shall be fitted with a tee, plug and valve so that the well point can be converted for use as an observation well. Observation wells shall be not less than 1 inches in diameter.

d. Standby gasoline or diesel-powered equipment shall be provided so that in the event of failure of the operating equipment, the standby equipment can be readily connected to the system. The standby equipment shall be maintained in good order and actuated regularly not less than twice a week.

2. Operation

a. Where well points are used, the groundwater shall be lowered and maintained continuously (day and night) at a level not less than 2 feet below the bottom of the excavation. Excavation will not be permitted at a level lower than 2 feet above the water level as indicated by the observation wells.

b. The effluent pumped from the well points shall be examined periodically by qualified personnel to determine if the system is operating satisfactorily without the removal of fines.

c. The water level shall not be permitted to rise until construction in the immediate area is completed and the excavation backfilled.

3.3 STORAGE OF MATERIALS

A. Sod

1. Any sod cut during excavation shall be removed and stored during construction so as to preserve the grass growth. Sod damaged while in storage shall be replaced in like kind at the sole expense of the CONTRACTOR.

B. Topsoil

1. Topsoil suitable for final grading shall be removed and stored separately from other excavated material.
2. Control erosion run-off from stockpiles by installing silt fencing. Maintain silt fence during construction and remove upon completion of work.

C. Excavated Materials

1. All excavated materials shall be stored in locations so as not to endanger the work, and so that easy access may be had at all times to all parts of the

excavation. Stored materials shall be kept neatly piled and trimmed, so as to mitigate impact to public travel and to adjoining property owners.

2. Special precautions shall be taken to permit access at all times to fire hydrants, fire alarm boxes, police and fire department driveways, and other points where access may involve the safety and welfare of the general public.

3.4 DISPOSAL OF MATERIALS

A. Spoil Material

1. All spoil materials shall be disposed of as required by the local, state or federal regulations.
2. The surface of all spoil areas shall be graded and dressed and no unsightly mounds or heaps shall be left on completion of the work. On-site disposal areas, if permitted, shall be permanently restored with turf establishment or as otherwise specified.

3.5 SHEETING AND BRACING

A. Installation

1. The CONTRACTOR shall furnish, place and maintain such sheeting, bracing and shoring as may be required to support the sides and ends of excavations in such manner as to prevent any movement which could, in any way, injure the pipe, structures, or other work; diminish the width necessary for construction; otherwise damage or delay the work of the Contract; endanger existing structures, pipes or pavements; or cause the excavation limits to exceed the right-of-way limits.
2. In no case will bracing be permitted against pipes or structures in trenches or other excavations.
3. Sheeting shall be driven as the excavation progresses, and in such manner as to maintain pressure against the original ground at all times. The sheeting shall be driven vertically with the edges tight together, and all bracing shall be of such design and strength as to maintain the sheeting in its proper position. Seepage that carries fines through the sheeting shall be plugged to retain the fines.
4. Where breast boards are used between soldier pile, the boards shall be back packed with soil to maintain support.
5. The CONTRACTOR shall be solely responsible for the adequacy of all sheeting and bracing.

B. Removal

1. In general, all sheeting and bracing, whether of steel, wood or other material, used to support the sides of trenches or other open excavations, shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a pipe or structural foundation shall not be withdrawn, unless otherwise directed, before more than 6 inches of earth is placed above the top of the pipe or structural foundation and before any bracing is removed. The voids left by the sheeting

shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

2. The CONTRACTOR shall not remove sheeting and bracing until the work has attained the necessary strength to permit placing of backfill.

C. Left in Place

1. If, to serve any purpose of his own, the CONTRACTOR files a written request for permission to leave sheeting or bracing in the trench or excavation, the Department's Designated Representative may grant such permission, in writing, on condition that the cost of such sheeting and bracing be assumed and paid by the CONTRACTOR.
2. The CONTRACTOR shall leave in place all sheeting, shoring and bracing which are shown on the Contract Drawings or specified to be left in place or which the Department's Designated Representative may order, in writing, to be left in place. All shoring, sheeting and bracing shown or ordered to be left in place will be paid for under the appropriate item of the Contract. No payment allowance will be made for wasted ends or for portions above the proposed cutoff level, which are driven down instead of cut-off.
3. In case sheeting is left in place, it shall be cut off or driven down as directed so that no portion of the same shall remain within 12 inches of the street subgrade or finished ground surface.

3.6 BACKFILLING

A. General

1. All excavations shall be backfilled to the original surface of the ground or to such other grades as may be shown, specified or directed.
2. Backfilling shall be done with suitable excavated materials that can be satisfactorily compacted during refilling of the excavation. In the event the excavated materials are not suitable, Select Fill as specified or ordered by the Department's Designated Representative shall be used for backfilling.
3. Any settlement occurring in the backfilled excavations shall be refilled and compacted.

B. Unsuitable Materials

1. Stones and pieces of rock greater than six inches in any single dimension shall not be used in any portion of the backfill.
2. All stones and pieces of rock shall be distributed through the backfill and alternated with earth backfill in such a manner that all interstices between them shall be filled with earth.
3. Stone and pieces of rock greater than 1.5-inches in any single dimension shall not be used in the initial backfill (centerline of pipe to 12-inches above the top of pipe).
4. Pieces of pavement, frozen earth, or other miscellaneous debris shall not be allowed in any part of the backfill.

C. Compaction and Density Control

1. The compaction shall be as specified for the type of earthwork (i.e., structural, trenching or embankment).
    a. The compaction specified shall be the percent of maximum dry density.
    b. Performance based specification for compaction of fill as approved by the ENGINEER
    c. The compaction equipment shall be suitable for the material encountered.
2. Where required, to assure adequate compaction, in-place density test shall at the expense of the CONTRACTOR be made by an approved testing laboratory.
    a. The moisture-density relationship of the backfill material shall be determined by ASTM D1557, Method D.
        1) Compaction curves for the full range of materials used shall be developed.
    b. In-place density shall be determined by the methods of ASTM D1556 or ASTM D2922 and shall be expressed as a percentage of maximum dry density.
3. A performance type requirement related to the placement and compaction of the general fill material outside the limits of the evapotranspiration cover will be allowed if the CONTRACTOR can demonstrate that the required performance type compaction can be performed. The general fill material located on the site shall be placed and compacted by the following method, subject to acceptance by the ENGINEER.
    a. 12 Ton Vibratory Drum Compactor
        1) This type of compactor is defined as a machine which primarily develops its compactive effort from the vibrations create and is classified for use according to the developed compactive force rating per linear inch of drum width (PLI). The minimum effective compactive force, PLI, used shall be 740 and the minimum effort shall be 6 passes of 4.5 feet per second. Each lift shall not exceed a loose lift thickness of 12-inches. All stones or pieces of concrete greater than 8 inches should be removed to the best of the ability of the CONTRACTOR.

            The ENGINEER shall be allowed to witness that the CONTRACTOR has achieved adequate compaction of a given area defined by location on a daily basis. If the ENGINEER is not provided this opportunity by the CONTRACTOR, areas compacted on that day are subject to rejection

4. Where required, to obtain the optimum moisture content, the CONTRACTOR shall add, at its expense, sufficient water during compaction to assure the specified maximum density of the backfill. If, due to rain or other causes, the material exceeds the optimum moisture content, it shall be allowed to dry, assisted if necessary, before resuming compaction or filling efforts.

5. The CONTRACTOR shall be responsible for all damage or injury done to pipes, structures, property or persons due to improper placing or compacting of backfill.

3.7 OTHER REQUIREMENTS

A. Drainage
   1. All material deposited in roadway ditches or other water courses shall be removed immediately after backfilling is completed and the section, grades and contours of such ditches or water courses restored to their original condition, in order that surface drainage will be obstructed no longer than necessary.

B. Unfinished Work
   1. When, for any reason, the work is to be left unfinished, all trenches and excavations shall be filled and all roadways, sidewalks and watercourses left unobstructed with their surfaces in a safe and satisfactory condition. The surface of all roadways and sidewalks shall have a temporary pavement.

C. Hauling Material over Public Roads and Streets
   1. When it is necessary to haul material over public streets or pavements, the CONTRACTOR shall provide suitable, tight vehicles so as to prevent deposits on the streets or pavements. In all cases where any materials are dropped from the vehicles, the CONTRACTOR shall clean up the same as often as required to keep the crosswalks, streets and pavements clean and free from dirt, mud, stone and other hauled material.

D. Dust Control
   1. It shall be the sole responsibility of the CONTRACTOR to control the dust created by any and all of his operations to such a degree that it will not endanger the safety and welfare of the general public.
   2. Calcium chloride and petroleum products shall not to be used for dust control.

E. Test Pits
   1. For the purpose of obtaining detail locations of under-ground obstructions, the CONTRACTOR shall make excavations in advance of the work. Payment for the excavations ordered by the Department's Designated Representative will be made under an appropriate item of the Contract and shall include sheeting, bracing, pumping, excavation and backfilling.

+ + END OF SECTION + +

SECTION 31 23 01

STRUCTURAL EXCAVATION AND FILL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes excavation, backfill and compaction as required for the completion of the work in accordance with the applicable provisions of the Section entitled "Earth Moving" unless modified herein, or as shown on the Contract Drawings.

1.2 REFERENCES

A. Comply with the latest revision of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. Refer to the Section entitled “Earth Moving”.
   2. ASTM International
      a. D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3) (2,700 kN-m/m^3)

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 LIMITS OF EXCAVATION

A. Excavations shall be made to the elevations or subgrades specified and shall be only of sufficient size to allow suitable room for the proper allowances for sheeting, de-watering, and other similar work necessary for completion work shown on the Contract Drawings.

B. In no case will undercutting excavation faces be permitted.

C. If additional waste is encountered, the CONTRACTOR shall document the quantity of additional waste and notify the ENGINEER.

D. Material to be excavated shall extend from the Limits of Waste to the Limits of the ET Cover shown on the Contract Drawings.

E. All waste material shall be excavated, regardless of depth, and placed within the limits of the ET Cover.

3.2 SUBSURFACE REINFORCEMENT

A. Where an unstable subgrade is encountered and subject to the approval of the ENGINEER, select fill may be used for subgrade reinforcement if satisfactory results can be obtained thereby. Such material shall be applied in thin layers, each layer being entirely embedded in the subsoil by thorough tamping.

B. All excess material shall be removed to compensate for the displacement by the select fill and the finished elevation shall not be above the specified subgrade.

C. Where subgrade reinforcement is unsatisfactory, a concrete mud mat of sufficient thickness to withstand subsequent construction operations shall be installed below the specified elevation.

3.3 SUBSURFACE

A. Subsurface shall be undisturbed original earth or, mud mat on undisturbed original earth, or where excavation below subgrade is ordered, it shall be thoroughly compacted special backfill or concrete mud mat as specified or directed.

3.4 REMOVAL OF WATER

A. The CONTRACTOR shall at all times provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work.

B. The removal of water shall be in accordance with the Section entitled "Earth Moving".

3.5 BACKFILLING

A. Backfilling shall be with suitable excavated materials which can be compacted as specified. In the event the excavated materials are not suitable, special backfill as specified or ordered by the ENGINEER shall be used for backfilling.

B. Backfill shall be deposited in horizontal layers and at no greater thickness than can be compacted to obtain the specified minimum densities.

3.6 COMPACTION

A. Where driveways or other features are to be constructed on the backfilled area the entire backfill shall be compacted to obtain 95% maximum dry density. Other areas shall be compacted to obtain 90% maximum density. Dry density as determined by the density test designated by ASTM D1557.

B. The density shall be determined as set forth in the Section entitled "Earth Moving".

C. In place density compaction testing as set forth in Section entitled “Earth Moving” shall be completed as directed by the ENGINEER.

+ + END OF SECTION + +

SECTION 31 25 00

EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes temporary erosion and sediment control (ESC) measures intended to minimize erosion of soils and sedimentation of lands and waters adjacent to or affected by the proposed construction at the Former Utica City Dump Site in Utica, New York.

1.2 REFERENCES

A. All work will be performed in compliance with the New York State Department of Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001). Materials and installation will be in accordance with the latest revisions of the following codes, standards, and specifications:
   1. New York State Standards and Specifications for Erosion and Sediment Control.
   2. New York State Stormwater Management Design Manual.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. 01 57 23 Construction Water Management

B. 31 20 00 Earth Moving

C. 32 01 00 Restoration of Surfaces

D. 32 72 00 Habitat Restoration

E. 32 92 00 Lawns and Meadows

1.4 SUBMITTALS

A. Submit shop drawings of all erosion control measures and vegetative seed mixes for approval.

PART 2 - PRODUCTS

2.1 SUMMARY

A. Provide all necessary supervision, labor, equipment and materials needed to perform the specified work. Materials may include vegetation, silt fence, composite

filter sock, wood chip berms, stone, erosion control fabric, and other manufactured products to reduce erosion and control sedimentation.

2.2 SILT FENCE

A. Posts will be steel (either T or U type) or 2-inch square hardwood with 10-foot spacing. Wire fence backing will be woven wire, 14.5 gauge, with 6-inch maximum mesh opening.

B. Geotextile filter cloth sizing will be as recommended by the manufacturer. The material will have a minimum tensile strength of 120 pounds (test procedure ASTM D1682).

2.3 COMPOSITE FILTER SOCK

A. Composite Filter Sock shall be FILTREXX® Sediment/Perimeter Control SILTSOXX as manufactured by FILTREXX® or equal.

B. Compost used for composite filter socks shall be weed, pathogen, insect free, free of any refuse, and free from any contaminants or other materials toxic to plant growth.

C. Stakes shall be 2-inch square hardwood with 10-foot spacing.

2.4 WOOD CHIP BERM

A. Wood chips shall be from native woody vegetation and shall be free of any refuse, contaminants or other materials toxic to plant growth. Chips from allelopathic species such as black walnut (Juglans nigra) shall not be used.

2.5 STABILIZED CONSTRUCTION ENTRANCE

A Stone size - use 2" stone or reclaimed or recycled concrete equivalent.

B. Length - as required, but not less than 50 feet.

C. Thickness - not less than 6".

D. Width 24' minimum, but not less than the full width at points where egress occurs.

E. Geotextile stabilization fabric (section 31 32 19.16) - will be placed over the entire area prior to placing of stone.

F. Surface water - surface water flowing or diverted towards construction entrances shall be piped across the entrance. If piping is not possible, a mountable berm 3' wide (min.) With 5:1 slopes will be permitted.

G. Maintenance - the entrances shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or clean out of any measures used to trap sediment. Sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

H. Washing - wheels shall be cleaned to remove soil material prior to entrance onto public rights-of-way. When washing is required, it shall be performed in a stabilized area within the contractor's staging area.

I. Periodic inspection and needed maintenance shall be provided in accordance with the project stormwater pollution prevention plan.

J. Stabilized construction access shall be constructed as needed at all ingress and egress locations to minimize sedimentation and off-site tracking.

K. In lieu of stone stabilization construction entrances, rumble pads may be utilized in accordance with section 2.6 Rumble Pad.

2.6 RUMBLE PAD

A. Pre-constructed rumble pads (a composite mat designed to replace rock construction entrances, providing a cost-effective and durable solution. Its distinctive diamond-shaped terrain is engineered to deform tires and dislodge sediment effectively, maintaining a clean construction site) may be used in lieu of rock construction entrances provided they are installed in accordance with the manufacturer's recommendations and a sufficient number of pads are installed to provide for a minimum of four tire revolutions while on the pad. More pads may be needed depending on site conditions. Accumulated materials shall be cleaned from the pads daily (more often if necessary) and placed beneath the ET Cover.

2.7 TEMPORARY VEGETATION

A. See Section 3.02 Temporary Stabilization.

2.8 DUST CONTROL

A. Measures may include water application or mulching but will not include use of chemical additives.

2.9 STONE CHECK DAMS

A. Stone check dams shall be installed in trenches during excavation as shown on the Contract Drawings.

B. Check dam shall consist of NYSDOT Item No. 623.12 placed on geotextile layer separation fabric (Mirafi 1100N or equal).

PART 3 - EXECUTION

3.1 SEQUENCE

A. A temporary stabilized construction entrance or Rumble Pad will be installed at the ingress/ egress location. If needed, vehicles/equipment will be washed on the entrance prior to leaving the site. Periodic top dressing of the entrance will be performed as necessary as material accumulates to prevent tracking of material onto off-site roadways.

B. Erosion and sediment controls shall be installed prior to disturbing existing site soils and vegetation.

C. Compost Filter Socks, wood chip berms, or silt fence will be installed along toes of embankments, on downstream portions of the site perimeter, and around spoil piles and stockpiles.

D. Staging/laydown areas for vehicles and construction equipment will be located on stabilized portions of the site.

E. Additional ESC facilities will be installed as shown on the Contract Drawings. These facilities will remain in place until construction activities are completed, and the site is stabilized.

F. Bypass flow of existing drainage channels shall be maintained or provided at all times.

G. The site will be cleared and grubbed within the limits of work only. Cleared vegetation, soil, and other debris will be stockpiled in approved areas for disposal at an approved location. Chipped vegetation may be used for creating wood chip berms, as mulch, and other approved uses if it is derived from native species.

H. Stockpiled and exposed soil will be stabilized, topsoiled, seeded, and mulched in accordance with the Design Documents.

I. Upon stabilization of the site and approval of final site inspection, temporary ESC measures will be removed unless they are needed for future project phases that are scheduled to commence within a timeframe that is deemed appropriate by the ENGINEER.

3.2 TEMPORARY STABILIZATION

A. The Project approach includes planting the Project area with permanent vegetation as soon as practicable. In the event of unforeseen Project delays (i.e., longer than the time frames allowed by the Department, areas will be temporarily stabilized pursuant to Department standard erosion control measures.

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

B. Temporary stabilization shall include the following measures:
   1. Spread additives into soil by approved methods.
   2. The seed will not be more than two years old. Germination tests of the seed proposed to be used will be made not more than six months prior to seeding operations. The seed mixture may be varied to suit special conditions of soil peculiar to the areas to be seeded. Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable.
   3. Temporary seed will be applied as follows: oats at a rate of 45 pounds per acre and white clover at a rate of 5 pounds per acre. If performed between October 1 and March 31, winter wheat will also be applied at a rate of 10 pounds per acre. Spread seed by hand or approved sowing equipment.
   4. After sowing has been completed, apply mulch evenly over the entire seeded area at a rate of 2 tons per acre.

3.3 PERMANENT STABILIZATION

A. Permanent stabilization measures will be initiated pursuant to the latest version of the New York State Standards and Specifications for Erosion and Sediment Control. Topsoil and seeding of disturbed areas shall be completed in accordance with Section 32 92 00 Lawns and Meadows or Section 32 72 00 Habitat Restoration.

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

B. This requirement does not apply if the installation of stabilization measures is precluded by snow cover or frozen ground conditions; however, measures will be implemented as soon as practicable.

3.4 WATER MANAGEMENT PLAN

A. Means and methods of construction phase water management are provided in the CONTRACTOR's approved Construction Water Management Plan developed as described in Section 01 57 23 "Construction Water Management Plan".

3.5 ADDITIONAL STORMWATER CONTROLS

A. Proper precautions are to be taken so materials do not spill onto public thoroughfares (e.g., leaking hydraulic lines). If materials are dropped onto these areas, they are to be cleaned or removed as soon as practicable so that they do not enter surface and subsurface drainage systems.
B. The CONTRACTOR is to provide dust control measures to mitigate dust migration off-site. Measures may include water application or mulching and shall not include use of chemical additives.
C. Solid waste disposal dumpsters and containers are to be covered and emptied regularly. Waste is to be disposed of properly in accordance with local, State, and/or federal regulations.
D. Portable toilets are to be installed and cleaned regularly with their contents properly disposed of. They are to be secured in place so they will not be knocked over by construction activities.
E. Building materials are to be properly stored and contained on-site to prevent contamination of site stormwater runoff.
F. Oil and fuel containers are to have appropriate secondary containment. If total oil storage on-site exceeds a cumulative total of 1,320-gallons, a spill prevention control and countermeasure (SPCC) plan shall be prepared by the CONTRACTOR and maintained on-site.
G. Chemicals (e.g. herbicides) with spill potential shall have secondary containment (e.g., spill pallets) or be stored indoors in sealed, non-leaking containers.

3.6 MAINTENANCE

A. Construction period operation and maintenance:
    1. Clean, repair and/or replace silt fences, composite filter socks, wood chip berms, check dams, construction entrances, riprap aprons, and swales as necessary.
    2. Remove sediment from swales, check dams, silt fence, wood chip berms, and composite filter socks when it has accumulated to one half the design capacity.
    3. Clean and/or sweep affected roadways daily, or more frequently if otherwise required based on periodic inspections.

4. Observe equipment and vehicles within the work area, particularly for identification of vehicles leaking petroleum products that could enter stormwater drainage facilities.
5. Stabilized construction entrances and construction access roads will be resurfaced as necessary.
6. Remove debris and litter on a weekly basis or more frequently if necessary.

B. Post-construction operation and maintenance:
1. Vegetation within the Project area will be monitored and maintained. Dead vegetation will be replaced as necessary to maintain a minimum ground coverage of 80%.
2. Areas will be maintained and/or reseeded or stabilized to protect against erosion.
3. Sloughing or erosion of embankments will be repaired.
4. Inspect swales and riprap aprons. Remove and dispose of trees, brush, obstructions and other foreign objects to prevent interference with proper facility function.
5. Inspect and clean stormwater facilities as necessary to maintain full flow capacity. Remove sediment and other debris as needed.

3.7 INSPECTION DURING CONSTRUCTION

A. The Department will be responsible to provide a qualified inspector[1] will inspect the proposed erosion and sediment control measures and disturbed areas of the construction site for compliance with the SWPPP until the site is stabilized. The qualified inspector will evaluate whether site-generated sediment is entering natural surface water bodies located within, or immediately adjacent to, the site boundaries. Digital photographs, with date stamp, will be taken that show the conditions of erosion and sediment control facilities and stormwater management practices that have been identified as needing corrective actions. Additional photographs will be taken after implementation of corrective actions showing the condition of the facilities and practices. These photographs will be attached to the inspection form within seven calendar days of the respective inspection.

The qualified inspector will conduct at least one inspection every seven calendar days. For sites where the NYSDEC has authorized greater than 5-acres of soil at

[1] Qualified inspector means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other NYSDEC endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four hours of training every three years.

one time, the qualified inspector will conduct at least two site inspections every seven calendar days, with a minimum of two full calendar days between inspections. A typical inspection report form for conducting the inspections is included in Appendix F of the SWPPP.

B. An inspection report shall be completed by the qualified inspector after each inspection. Each inspection report is to remain on file at the site as part of the SWPPP. Each report shall contain:
   1. the inspection date
   2. names, titles, and qualifications of personnel making the inspection
   3. weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred
   4. weather information and a description of any discharges occurring at the time of the inspection
   5. location(s) of discharges of sediment or other pollutants from the site
   6. location(s) of BMPs that need to be maintained
   7. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
   8. location(s) where additional BMPs are needed that did not exist at the time of inspection
   9. corrective action required including any changes to the SWPPP necessary and implementation dates.

C. Prior to construction, at least one "trained CONTRACTOR" shall be identified who will be responsible for implementation of the SWPPP and inspection of the erosion and sediment controls in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. At least one trained CONTRACTOR shall be on site on a daily basis while soil disturbance activities are being performed. The CONTRACTOR shall begin implementing the corrective action within one business day and complete it within seven calendar days following the date of the inspection. Additional mitigation measures are to be implemented by the CONTRACTOR if warranted to minimize sediment transport or discharge of sediment laden runoff off-site.

3.8 NON-STORMWATER DISCHARGES

A. The following preventative measures shall be employed by the CONTRACTOR to minimize non-stormwater discharges associated with the construction activity entering Site stormwater facilities:
   1. Cleaning water for construction vehicles and equipment and ground water encountered within excavations shall not be discharged directly to storm drains or adjacent surface waters. Chemicals and detergents are not to be used.
   2. The CONTRACTOR is responsible for identifying areas on-site for construction vehicle transit (i.e., haul roads, CONTRACTOR trailers and

parking areas, etc.) or equipment staging, which are to be visually inspected and where runoff can be controlled.

3. Water used for dust control measures is to be applied using proper quantities and equipment. No chemical additives are to be used.
4. Water main flushing, hydrostatic test water, fire test water, and chlorination test water shall not be discharged directly to storm drains or adjacent surface waters. Turbid water is to be detained to allow sufficient sedimentation time.

3.9 SPILL PREVENTION

A. The following spill prevention measures will be performed:
   1. Products will be kept in their original containers with the original manufacturer's label to the extent practicable.
   2. Materials with potential for spillage that are stored on-site will be stored in a neat, orderly manner in their appropriate containers and in secondary containment.
   3. Substances will not be mixed with one another unless recommended by the substance manufacturer.
   4. Whenever possible, product will be used up or packages resealed before proper management of contents and containers off site.
   5. Manufacturers' recommendations for proper use and disposal will be followed.
   6. Inspection will be made for proper use of materials.
   7. On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage of petroleum products. Petroleum products will be stored in closed containers which are clearly labeled. Used oils will be disposed of properly.
   8. Materials will be brought on-site in the minimum quantities required to limit on-site storage.
   9. Refueling of vehicles and equipment will occur a minimum of 50-feet from streams, lakes and wetlands unless temporary relocation jeopardizes operations.

3.10 SPILL CONTROL PRACTICES

A. The following practices shall be followed by the CONTRACTOR for spill prevention and cleanup.
   1. Spills of petroleum, toxins, or hazardous material are to be reported to the appropriate State or local government agencies immediately, regardless of size.
   2. Manufacturers' recommended methods for spill cleanup are to be clearly posted and site personnel are to be made aware of the procedures and the location of the information and cleanup supplies.
   3. Materials and equipment necessary for spill cleanup are to be kept in designated material storage areas on-site. Equipment and materials are to include but not be limited to brooms, dust pans, mops, rags, gloves, goggles,

spill control materials, sand, sawdust, and trash containers specifically for this purpose.

4. Spills are to be cleaned up immediately after discovery.
5. The spill area is to be kept well-ventilated and personnel are to wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
6. A spill report is to be completed and filed in the SWPPP and is to include a description of the spill, what caused it, and the corrective actions taken.

3.11 CERTIFICATIONS

A. CONTRACTOR Certification - Each CONTRACTOR involved in soil disturbance shall understand and sign a form containing the following certification statement:

> "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that Honeywell or the operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."

B. Qualified Inspector Certification - The qualified inspector(s) designated by the Department shall understand and sign the following certification statement (included within the SWPPP) prior to start of construction:

> "I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this Project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

3.12 NOTICE OF INTENT/TERMINATION

A. The completed and signed SPDES Notice of Intent (NOI) will be submitted to the NYSDEC prior to initiation of construction activities. The SPDES Notice of Termination (NOT) will be completed and submitted to the NYSDEC upon completion of construction and stabilization of the Project area.

+ + END OF SECTION + +

SECTION 31 25 14.16

ROLLED EROSION CONTROL MATS AND BLANKETS

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes Biodegradable Erosion Control Blanket (ECB) utilized on the cover system as specified herein and as shown on the Contract Drawings or as directed by the ENGINEER.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Standard for Testing Materials (ASTM)
      a. ASTM D 1117 Standard Guide for Evaluating Nonwoven Fabrics
      b. ASTM D 6525 Standard Test Method for Measuring Nominal Thickness of Permanent Rolled Erosion Control Products
      c. ASTM D 1388 Standard Test Method for Stiffness of Fabrics
      d. ASTM D 6818 Standard Test Method for Ultimate Tensile Properties of Turf Reinforcement Mats

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. 31 25 00 Erosion and Sediment Control

B. 32 01 00 Restoration of Surfaces

C. 32 92 00 Lawns and Meadows

1.4 SUBMITTALS

A. The following items shall be submitted:
   1. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of the referenced standards and this specification.

B. Details related to the ECB manufacturers installation guidelines and procedures including the anchor and overlap details as required in Part 3.1 A.

C. If requested, at least 3 samples of the ECB shall be submitted to the ENGINEER.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Erosion Control Blanket
   1. The ECB shall be American Excelsior Company AEC Premier Straw/Coconut FibreNet, or equal.
   2. The ECB shall consist of a blend of 70% straw and 30% coconut fibers. The top and bottom of each blanket shall be covered with biodegradable jute netting. The blanket shall possess strength and elongation properties to limit stretching.
   3. The ECB shall conform to the following requirements:

Index Property		
Thickness	ASTM D6525	0.331 in (8.41 mm)
Water Absorbency	ASTM D1117	382%
Mass/Unit Area	ASTM 6475	0.81 oz/yd^2 (437 g/m$^{2)}$
Tensile Strength – MD	ASTM D6818	321.6 lb/ft (4.69 kN/m)
Elongation – MD	ASTM D6818	4.1%
Tensile Strength – TD	ASTM D6818	159.6 lb/ft (2.33 kN/m)
Elongation – TD	ASTM D6818	4.8%

   4. ECB shall be fastened with biodegradable Eco-Stakes per the manufacturer's installation instructions.
   5. During all periods of shipment and storage, the ECB shall be protected from adverse weather, heavy winds or precipitation, direct sunlight, ultraviolet light, temperatures greater than 140□F, mud, dirt, dust, debris, and vandals. To the extent possible, the ECB shall be maintained wrapped in a heavy-duty protective covering. In the event of damage, the CONTRACTOR shall immediately make all repair and replacements at no additional cost to the Department.
   6. All testing including laboratory and field services required during installation of the ECB shall be provided by the CONTRACTOR.

PART 3 – EXECUTION

3.1 INSTALLATION

A. The ECB shall be installed in accordance with the manufacturer's recommendations reviewed by the ENGINEER prior to installation. The standard manufacturers installation criteria shall include the following details:

   - Longitudinal Anchor Trench

- Initial channel anchor trench
- Intermittent check slot
- Terminal channel anchor trench
- All anchor patterns

B. Prior to the installation of the ECB all topsoil and seeding will be completed in accordance with Section 32 92 00 Lawns and Meadows or as shown on the Contract Drawings.

C. Prior to installation of the ECB, the surface on which the ECB is to be installed will be free of irregularities, protrusions, and any abrupt changes in grade that could damage the ECB. The supporting layer will be maintained in a smooth, uniform, and compacted condition during installation of the ECB. The subgrade shall be inspected and accepted by the ENGINEER prior to placement of the ECB.

D. The ECB shall be placed in manner and at the locations shown on the drawings. At the time of the installation, the blanket shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation or storage.

E. The ECB shall be laid smooth and free of tension, stress, folds, wrinkles, or creases. The ECB shall be overlapped, anchored, pinned and installed in accordance with the manufacturer's recommendations.

F. The ECB shall be protected at all times during construction from damage by surface runoff and any ECB so damaged shall be removed and replaced with undamaged ECB. Any damage to the ECB during its installation shall be replaced by the CONTRACTOR at the CONTRACTOR's expense.

G. The ECB shall be placed tightly against the soil such that no void spaces occur behind the mat.

H. At the end of each day or after completion of the placement of the ECB the excess roll material not installed shall be removed.

+ + END OF SECTION + +

SECTION 31 32 19.16

GEOTEXTILE SOIL STABILIZATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the furnishing of all labor, material, and equipment as required to perform the installation of geotextile stabilization fabric as specified herein and as shown on the Contract Drawings or directed by the ENGINEER.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM D 3786 Test Methods for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabric-Diaphragm Bursting Strength Tester Method
      b. ASTM D 4355 Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
      c. ASTM D 4533 Test Methods for Trapezoid Tearing Strength of Geotextiles
      d. ASTM D 4595 Test Method for Tensile Properties of Geotextiles by the Wide Width Strip Method
      e. ASTM D 4632 Test Methods for Breaking Load and Elongation of Geotextiles
      f. ASTM D 4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products

1.3 SUBMITTALS

A. The following items shall be submitted:
   1. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of this specification.
B. Samples of geotextile stabilization fabric shall be submitted at the ENGINEER’s request.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project :
   1. TenCate Mirafi 600x

2. Or approved equal.

2.2 GEOTEXTILE STABILIZATION FABRIC

A. The geotextile stabilization fabric shall consist of a long-chain geosynthetic polymer composed of at least 85 percent by weight of propylene's and shall contain stabilizers and/or inhibitors added to the base plastic to make the fibers resistant to deterioration due to ultraviolet light and heat exposure. The fibers shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including salvages. The geotextile shall also be mildew and rot resistant, and inert to chemicals and hydrocarbons.

B. The geotextile stabilization fabric shall be a woven geotextile.

C. The geotextile stabilization fabric shall conform to the following minimum average roll values:

	Standard	Criteria
CBR Puncture Strength	ASTM D 6241	Minimum 900 lbs.
Trapezoidal Tear Strength	ASTM D 4533	Minimum 120 lbs.
Grab Tensile Strength	ASTM D 4632	Minimum 315 lbs.
Grab Tensile Elongation	ASTM D 4632	Minimum 15%
Apparent Opening Size (AOS)	ASTM D4751	#40 U.S. Sieve
Permittivity	ASTM D4491	0.05 sec^{-1}
Flow Rate	ASTM D4491	4.0 $gal/min/ft^2$
UV Resistance	ASTM D 4355 (after 500 hours)	70% Strength Retained

D. During all periods of shipment and storage, the geotextile shall be protected from adverse weather, heavy winds or precipitation, direct sunlight, ultraviolet light, temperatures greater than 140°F, mud, dirt, dust, debris, and vandals. To the extent possible, the geotextile shall be maintained wrapped in a heavy-duty protective covering. In the event of damage, the CONTRACTOR shall immediately make all repairs and replacements at no additional cost to the Department.

E. All geotextile testing services as specified herein necessary for the CONTRACTOR to obtain an acceptable geotextile stabilization fabric shall be provided by the CONTRACTOR. All testing including laboratory and field services required during installation of the geotextile stabilization fabric shall be provided by the CONTRACTOR.

2.3 TEMPORARY PINS

A. Temporary securing pins shall be 3/16 inches in diameter, of steel, pointed at one end and fabricated with a head to retain a steel washer having an outside diameter of no less than 1.5 inches or as recommended by the geotextile manufacturer. The pins shall be no longer than nine (9) inches.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Prior to installation of the geotextile stabilization fabric, the material on which the geotextile is to be installed will be free of organic matter, irregularities, protrusions, and any abrupt changes in grade that could damage the geotextile. The supporting layers shall be maintained in a smooth, uniform, and compacted condition during installation of the geotextile. The subgrade shall be inspected and accepted by the ENGINEER prior to placement of the geotextile.

B. The geotextile stabilization fabric shall be placed in the manner and at the locations shown on the drawings. At the time of the installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

C. The geotextile shall be laid smooth and free of tension, stress, folds, wrinkles, or creases. The geotextile shall be placed to provide minimum overlaps of 3 feet. Overlap shall be increased if during fill placement excessive wandering of the unrolled geotextile is observed.

D. Temporary pinning of the geotextile stabilization fabric into the underlying subgrade to help hold the geotextile in place shall be allowed. The temporary pins shall be removed as the overlying materials are placed to relieve high tensile stress which may occur during placement of material on the geotextile. The geotextile shall be placed so that the upper strip of geotextile will overlap the next lower strip by a minimum of 3 feet. Each securing pin shall be pushed through the geotextile until the washer bears against the geotextile and secures the pin firmly to the supporting layer.

E. The geotextile shall be protected at all times during construction from damage by surface runoff. Any damaged geotextile shall be removed and replaced with undamaged geotextile. Any damage to the geotextile during installation or during placement of soil layers or other activities shall be replaced by the CONTRACTOR at the CONTRACTOR's expense.

F. The work shall be scheduled so that covering of the geotextile with a layer of the specified material is accomplished within 5 days after placement of the geotextile. Failure to comply shall require replacement of geotextile.

G. The geotextile stabilization fabric shall be protected from damage due to the placement of materials by limiting the height of drop of the material to less than 1 foot.

H. Cover material shall be placed on the geotextile in such a manner that a minimum of 6 inches of material will be between the vehicle or equipment tires, or tracks, and the geotextile at all times.

+ + END OF SECTION + +

SECTION 31 32 19.23

GEOTEXTILE LAYER SEPARATION

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the furnishing of all labor, material, and equipment and performing all operations required for testing, furnishing, hauling, and placing geotextile, complete as specified herein and as shown on the Contract Drawings or specified by the ENGINEER.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM D 4355 Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
      b. ASTM D 4491 Test Method for Water Permeability of Geotextiles by Permittivity
      c. ASTM D 4533 Test Methods for Trapezoid Tearing Strength of Geotextiles
      d. ASTM D 4595 Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
      e. ASTM D 4632 Test Methods for Breaking Load and Elongation of Geotextiles
      f. ASTM D4751Maximum Opening Diameter Value
      g. ASTM D 4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
      h. ASTM D 4884 Test Method for Strength of Sewn or Thermally Bonded Seams of Geotextiles
      i. ASTM D 5261 Test Method for Measuring Mass per Unit Are of Geotextiles
      j. ASTM D 6241Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

1.3 SUBMITTALS

A. The following items shall be submitted:
   1. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of this specification.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project:
   1. SOLMAX Mirafi 1100N
   2. Or equal.

2.2 GEOTEXTILE FILTER FABRIC

A. The geotextile fabric shall consist of a long-chain geosynthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amids, or vinylidene-chloride, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultra-violet and heat exposure. The geotextile shall also be mildew and rot resistant, insect and rodent resistant, and inert to chemicals and hydrocarbons.
B. The geotextile fabric shall be a nonwoven, needle-punched geotextile.
C. The geotextile fabric shall conform to the following minimum average roll physical strength requirements:

Table 1 1 MIRAFI 1100N GEOTEXTILE FABRIC

Mechanical Property	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	250 (1113)	250 (1113)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	100 (445)	100 (445)
CBR Puncture Strength	ASTM D6241	lbs (N)	700 (3115)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	100 (0.15)	
			Minimum Roll Value	
Permittivity	ASTM D4491	Sec^{-1}	0.8	
Flow Rate	ASTM D4491	$gal/min/ft^2$ ($l/min/m^2$)	75 (3056)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% Strength Retained	70	

D. During all periods of shipment and storage, the geotextile shall be protected from adverse weather, heavy winds or precipitation, direct sunlight, ultraviolet light, temperatures greater than 140°F, mud, dirt, dust, debris, and vandals. To the extent

possible, the geotextile shall be maintained wrapped in a heavy-duty protective covering. In the event of damage, the CONTRACTOR shall immediately make all repair and replacements at no additional cost to the Department.

E. All geotextile testing services as specified herein necessary for the CONTRACTOR to obtain an acceptable geotextile fabric shall be provided by the CONTRACTOR. All testing including laboratory and field services required during installation of the geotextile fabric shall be provided by the CONTRACTOR.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Prior to installation of the geotextile fabric, the surface material on which the fabric is to be installed will be free of organic matter, irregularities, protrusions, and any abrupt changes in grade that could damage the filter fabric. The surface will be maintained in a smooth and uniform condition during installation of the filter fabric. The surface on which the geotextile is to be placed shall be inspected and accepted by the ENGINEER prior to placement of the geotextile filter fabric.

B. The geotextile shall be placed in manner and at the locations shown on the Contract Drawings. At the time of the installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

C. The geotextile laid smooth and free of tension, stress, folds, wrinkles, or creases. The geotextile shall be placed to provide minimum overlaps of 1.5 feet.

D. The geotextile shall be protected at all times during construction from damage by surface runoff and construction activities, and any geotextile so damaged shall be removed and replaced with undamaged geotextile. Any damage to the geotextile during its installation or during placement of soil layers or other activities shall be replaced by the CONTRACTOR at the CONTRACTOR's expense.

E. The Work shall be scheduled so that the covering of the geotextile (i.e. backfilling) with the specified material is accomplished within 10 days after placement of the geotextile. Failure to comply shall require replacement of geotextile.

F. The geotextile shall be protected from damage due to the placement of materials by limiting the height of drop of the material to less than 1 foot unless otherwise accepted by ENGINEER.

+ + END OF SECTION + +

SECTION 31 32 19.24

GEOTEXTILE DEMARCATION FABRIC

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the furnishing of all labor, material, and equipment and performing all operations required for testing, furnishing, hauling, and placing geotextile, complete as specified herein and as shown on the Contract Drawings or specified by the ENGINEER.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM D 4355 Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
      b. ASTM D 4491 Test Method for Water Permeability of Geotextiles by Permittivity
      c. ASTM D 4533 Test Methods for Trapezoid Tearing Strength of Geotextiles
      d. ASTM D 4595 Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
      e. ASTM D 4632 Test Methods for Breaking Load and Elongation of Geotextiles
      f. ASTM D4751Maximum Opening Diameter Value
      g. ASTM D 4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
      h. ASTM D 4884 Test Method for Strength of Sewn or Thermally Bonded Seams of Geotextiles
      i. ASTM D 5261 Test Method for Measuring Mass per Unit Are of Geotextiles
      j. ASTM D 6241Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

1.3 SUBMITTALS

A. The following items shall be submitted:
   1. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of this specification.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project:
   1. SOLMAX Mirafi 160N/O
   2. Or equal.

2.2 GEOTEXTILE DEMARCTION FABRIC

A. Mirafi ® Orange Delineation Nonwoven Geotextile Fabric. The geotextile demarcation fabric shall consist of a long-chain geosynthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amids, or vinylidene-chloride, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultra-violet and heat exposure. The geotextile shall also be mildew and rot resistant, insect and rodent resistant, and inert to chemicals and hydrocarbons.
B. The geotextile demarcation fabric shall be a nonwoven, needle-punched geotextile.
C. The geotextile demarcation fabric shall conform to the following minimum average roll physical strength requirements:

Table 1 1 MIRAFI 160N/O GEOTEXTILE DEMARCATION FABRIC

Mechanical Property	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	180 (801)	180 (801)
Trapezoid Tear Strength	ASTM D4533	lbs (N)	700 (312)	700 (312)
CBR Puncture Strength	ASTM D6241	lbs (N)	480 (2136)	
			Minimum Roll Value	
Permittivity	ASTM D4491	Sec^{-1}	1.7	
Flow Rate	ASTM D4491	gal/min/ft^2 (l/min/m^2)	125 (5093)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% Strength Retained	80	

D. During all periods of shipment and storage, the geotextile shall be protected from adverse weather, heavy winds or precipitation, direct sunlight, ultraviolet light, temperatures greater than 140°F, mud, dirt, dust, debris, and vandals. To the extent possible, the geotextile shall be maintained wrapped in a heavy-duty protective

covering. In the event of damage, the CONTRACTOR shall immediately make all repair and replacements at no additional cost to the Department.

E. All geotextile testing services as specified herein necessary for the CONTRACTOR to obtain an acceptable geotextile stabilization fabric shall be provided by the CONTRACTOR. All testing including laboratory and field services required during installation of the geotextile stabilization fabric shall be provided by the CONTRACTOR.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Prior to installation of the geotextile demarcation fabric, the surface material on which the demarcation fabric is to be installed will be free of organic matter, irregularities, protrusions, and any abrupt changes in grade that could damage the demarcation fabric. The surface will be maintained in a smooth and uniform condition during installation of the demarcation fabric. The surface on which the geotextile is to be placed shall be inspected and accepted by the ENGINEER prior to placement of the geotextile demarcation fabric.

B. The geotextile shall be placed in manner and at the locations shown on the Contract Drawings. At the time of the installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

C. The geotextile laid smooth and free of tension, stress, folds, wrinkles, or creases. The geotextile shall be placed to provide minimum overlaps of 1.5 feet.

D. The geotextile shall be protected at all times during construction from damage by surface runoff and construction activities, and any geotextile so damaged shall be removed and replaced with undamaged geotextile. Any damage to the geotextile during its installation or during placement of soil layers or other activities shall be replaced by the CONTRACTOR at the CONTRACTOR's expense.

E. The Work shall be scheduled so that the covering of the geotextile (i.e. backfilling) with the specified material is accomplished within 10 days after placement of the geotextile. Failure to comply shall require replacement of geotextile.

F. The geotextile shall be protected from damage due to the placement of materials by limiting the height of drop of the material to less than 1 foot unless otherwise accepted by ENGINEER.

+ + END OF SECTION + +

SECTION 31 62 16.16

STEEL PIPE PILE

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes plant, labor, equipment, services, appliances, testing, furnishing, handling, driving, and cutting-off of concrete filled steel pipe piles. In addition, the Subcontractor shall perform dynamic pile testing using a PDA, on at least four piles at each of the loading platforms in order to establish the driving criteria and verify the design capacity of the piles.

1.2 REFERENCES

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM A27 Mild to Medium Strength Carbon Steel Casting
      b. ASTM A572 Grade 50, Structural Steel
      c. ASTM D4945 Standard Test Method for High – Strain Dynamic Testing for Piles
   2. American Welding Society (AWS)
      a. D1.1 Structural Welding Code – Steel
   3. AISC 9th Edition – manual of Steel Construction
      a. ACI 301 – Structural Concrete for Buildings
      b. ACI 304 – Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete

1.3 QUALITY ASSURANCE

A. The CONTRACTOR shall be responsible for correctly locating all piles in the field

B. Tolerances: The permissible deviation of any pile within each of the two loading platforms shall not exceed the following:
   1. Variation from Contract Drawings location of each individual pile at cut-off location not to exceed three inches in any direction.
   2. Out of plumbness shall not exceed ¼-inch per foot of pile from the vertical.
   3. Final top of pile elevation shall not be more than one inch above; nor two inches below the cut-off elevation.

1.4 SUBMITTALS

A. Submit the following in accordance with the General Conditions/General Requirements.
   1. Submit names, qualifications and references of the pile driving Subcontractor and any other Subcontractors which will be performing the work.
   2. Retain the services of a professional pile testing firm to conduct Wave Equation Analyses, Dynamic Pile Testing, submit a professional report defining the pile driving criteria for the project.
   3. Before the start of pile driving, submit a schedule of the procedures and operations for the pile driving work. The schedule shall show in detail, the sequence and timing of all pile driving operations; and the equipment to be used.
   4. Shop Drawings and Location Plan:
      a. Detailed drawings showing all splice and tip details.
      b. Mill Certificates for all steel.
      c. Location Plan
         1) Identify each pile by number and loading platform
         2) Dimensions to control points
         3) Cutoff elevations
         4) Method and sequence of driving
   5. Pile Driving Equipment
      a. Pile Driving Hammer, made and model number, manufacturer's rated energy, ram weight and stroke and rated speed.
      b. Driving Helmet Type, make and model number, and weight.
      c. Hammer Cushion Type, thickness, cross-section dimensions, and manufacturer's data on stiffness and coefficient of restitution.
      d. Type of leads.
   6. Pile Driving Records
      a. Complete and accurate records of all driven piles, including:
         1) The date and time of driving.
         2) The pile number, location, size, length, elevation of tip and top of pole, and the number of blows required for each foot of penetration throughout the entire length of the pile, and the number of blows per inch for the last 12 inches of penetration or the number of blows per distance penetrated when refusal is met.
         3) In addition, for diesel hammers, the blow rate, stroke, bounce chamber pressure, and fuel setting throughout the entire length of driving. For all types of hammers, the blow rate shall be determined by using a Saximeter II which shall be furnished for the duration of the Project by the CONTRACTOR. For open ended diesel hammers, blow rate and stroke shall be determined using a Saximeter II.
         4) The type and size of hammer, the type and dimensions of hammer cushion.
         5) Any unusual occurrence during driving of the pile.
         6) The length of time of interruptions in driving, if any.

7. Submit drawings and detailed description of the dynamic pile testing equipment and testing procedures, as specified herein. Final test records shall be submitted within 14 days after testing. However, test results shall be made available upon completion of each test. The test records shall include at least the following information:
    a. Project identification.
    b. Testing subcontractor.
    c. Pile identification number and location.
    d. Design load of pile.
    e. Type of pile, cross section dimensions, top and bottom elevations.
    f. Date tested.
    g. Testing equipment used.
    h. Plots of stress waves versus time.
    i. Interpretation of the test data, including an estimate of ultimate pile capacity, evaluation of hammer energy and efficiency, magnitude of energy transferred/measured to the pile head, magnitude of tensile and compressive driving stresses, and any pile damage.
9. Certificates of Pre-Qualifications for all Welders.
10. Surveys
    a. Records of pile elevation changes (heaving) and lateral movement.
    b. Plan showing actual:
        1) Pile locations
        2) Pile orientations
        3) Tip elevations
        4) Cut off elevations

1.5 DELIVERY, STORAGE AND HANDLING

A. Driven piles must be protected against any damage which would permanently deform the member or bend its flanges.

1.6 JOB CONDITIONS

A. Coordination
    1. The Subcontractor shall provide any assistance required by the CONTRACTOR to monitor pile installation operations and pile load testing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Pipe Piles
    1. Pipe Piles: ASTM A572, Grade 50, Structural Steel; single length, 18-inch diameter Steel Pipe Pile, with beveled machine cut ends. The minimum wall

thickness shall be 0.375 inches and shall be analyzed during the wave equation analysis.

2. Pile Cushion Cap: Formed and welded steel.
3. Pile Splices: Pile Splices shall be full penetration butt welds using a backup sleeve that shall develop the full strength of the pile section. The surfaces to be joined shall be beveled. There shall be no more than one splice per pile.

PART 3 - EXECUTION

3.1 DRIVING EQUIPMENT

A. Piles shall be driven with a single acting air or diesel hammer with a rated energy of at least 48,600 ft-lbs or approved equal. The pile hammers shall be sized to ensure that stresses associated with hammer impact do not exceed allowable driving stresses specified herein.

1. The hammer used shall have a delivered energy suitable for the total weight of the pile, the character of the subsurface material to be encountered, and the pile capacity to be developed. The working load of 92,000 lbs in with a factor of safety equal to 2.0 Evaluation of the driving equipment from the Wave Equation Analyses results shall be based on an allowable driving stresses due to hammer impact only shall not exceed 0.9 Fy compression or tension.
2. The hammer shall be maintained in proper adjustment consistent with manufacturer's recommendation and shall be operated at the manufacturer's rated number of blows per minute and at the rated steam or air pressure of steam and air hammers. No modifications to the hammer will be permitted. The Subcontractor shall provide a Saximeter II as manufactured by Pile Dynamics, Inc., Cleveland, Ohio, Telephone (216) 831-6131, or equal, for the duration of the pile driving.
3. The hammer and driving helmet, and type of hammer cushion, used to drive the production piles shall be the same type and size as those used in the Wave Equation Analysis and for installation of the test piles. No modifications or substitutions will be permitted without the permission of the ENGINEER. If the CONTRACTOR changes hammers, he must drive additional test piles and have dynamic pile testing performed at his expense before driving the permanent piles even if the energy ratings of the hammers are identical.
4. Review of pile hammer relative to driving stress damage shall not relieve the CONTRACTOR of responsibility for pile damage because of misalignment of the leads, failure of cap block or cushion material, malfunctioning of the pile hammer, or other improper construction methods. Pile damage for such reasons shall be rejected if the CONTRACTOR determines that the damage impairs the strength of the pile, and shall be replaced by the CONTRACTOR at no expense to the DEPARTMENT.

B. Pile driving equipment shall have fixed leads, top and bottom.

C. The pile driving equipment shall have an auxiliary line attached to the pile at all times during pile driving operations.

D. Piles shall be held in leads during driving. Pile driver leads shall be constructed in a manner which affords freedom of movement to the hammer and ensures proper support of the pile during driving. Leads shall be adjustable, and shall have telescopic extensions. Followers shall not be used. The intent is that the leads and hammer follow the pile and support it through the entire driving period.

E. A driving helmet shall be used to distribute the energy of the hammer's blow evenly to the top of the pile. The driving helmet shall be used between the top of the pile and the ram to prevent impact damage to the pile. The driving helmet shall fit loosely around the top of the pile so that the pile is not restrained by the helmet if the pile tends to rotate during driving.

F. The hammer shall have a driving cushion between the driving helmet and the ram, as recommended by the hammer manufacturer. The hammer, cushion shall be replaced if it has become highly compressed, charred or deteriorated during driving. The hammer cushion shall not be replaced during final driving of any pile. Under no circumstances will the use of small wood blocks, rope or other material permitting excessive loss of hammer energy be permitted.

3.2 INSTALLATION

A. General
   1. Prior to driving, the SubCONTRACTOR shall clearly mark all piles with lines one foot apart, starting at the bottom with numerals every five feet. At the direction of the CONTRACTOR, pile driving shall pause long enough to mark shorter lines, at one-inch intervals to measure the driving resistance per inch for the last one foot of driving.
   2. Piles shall be capped on the driving end to prevent soil from entering the pile during driving..
   3. Piles shall be spaced a minimum of 3-pile diameter/size center-to-center.
   4. After the piles are driven and reviewed by the ENGINEER, they shall be cut-off in a horizontal plane at the specified cut-off elevation. Cutting methods shall be used which shall in no way damage the permanent portion of the pile. The CONTRACTOR shall be responsible for off-site disposal of all waste steel. Space around the pile induced pile driving or pre-augering operations should be filled with dry sand.
   5. Any remedial work required, in cases where the pile head is driven below the required elevation or beyond the aforesaid tolerances, or where the pile is damaged below cut-off level or is otherwise damaged or does not meet all the provisions of these Specifications, shall be at no cost to the DEPARTMENT.
   6. Piles shall be driven to the required tolerances. After driving of each pile group, the location and alignment of the piles shall be surveyed by the

CONTRACTOR. In the event that one or more piles are damaged or driven outside the allowable tolerances specified herein, the ENGINEER shall analyze the pile group. If the analysis indicates that any pile is overstressed as a result of damage or out of tolerance, the CONTRACTOR shall drive additional piles as directed by the ENGINEER at no additional cost. The CONTRACTOR shall modify the pile cap as required by the ENGINEER to accommodate the out of tolerance and/or add piles. All piles damaged or driven out of location/alignment shall be rejected and shall be at the expense of the CONTRACTOR. All additional piles, as directed by the ENGINEER, driven to acceptable tolerance shall be paid for at the stated unit price. Costs for enlarging the pile cap shall be borne by the CONTRACTOR.

7. Should a pile meet refusal above tip elevation the CONTRACTOR shall immediately inform the ENGINEER. The ENGINEER will analyze the pile group and direct the CONTRACTOR to perform corrective measures as required.
8. Jetting, angering or other methods of pre-excavation will not be allowed, unless approved in writing by the ENGINEER.
9. Followers will not be allowed.
10. Any pile driven in a manner other than in accordance with this specification will be rejected.
11. After piles have been driven, they shall be filled to the cut off elevation with concrete with a minimum compressive strength of 4,000 psi. Testing of the concrete shall be in accordance with Technical Specification 03 30 00 – Cast In Place Concrete.

B. Driving
   1. The CONTRACTOR shall furnish the ENGINEER with a schedule of the driving sequence he proposes to use. Departure from these schedules shall not be made without the ENGINEER's permission. The piles shall be driven starting from the center of the foundation and proceed in concentric circular working toward the outside perimeter.

C. Bearing Values: Piles shall be driven to refusal as specified herein or to a driving resistance, based on the Wave Equation Analysis and the driving results of the test piles, dynamic pile testing, and pile load tests.

D. Unsatisfactory Piles
   1. The method used in driving piles shall not subject the piles to excessive or undue abuse producing deformation of the steel. Misaligned piles shall not be forced into proper position. Any pile damaged during driving by reason of internal defects, or by improper driving, or driven out of its proper location, or driven below the designated cut-off elevation shall be corrected by the Subcontractor, without added compensation, by a method directed by the ENGINEER.
   2. Piles which have been bent during installation shall be considered unsatisfactory unless the bearing capacity is proven by load tests performed

at the CONTRACTOR's expense. If such tests indicate inadequate capacity, corrective measures, as determined by the ENGINEER, shall be taken such as use of bent piles at reduced capacity, installation of additional piles, strengthening of bent piles, or replacement of bent piles.

E. Splices: Splices in steel piles shall be of adequate strength to transmit the vertical and lateral loads and moments occurring in the pile section at the location of the splice. All welding shall conform to the applicable requirements of the current edition of AWS D1.1. Welders shall be qualified for the work according to AWS D1.1.

F. 48 hours after driving and before cutting off piles to their required elevation, the CONTRACTOR shall redrive piles as stated below.
   1. At least 10% of all piles.
   2. At least 10% under any structure.
   3. All piles exhibiting rise or relaxation shall be repeatedly redriven until the phenomenon is no longer evident.
   4. Redrive to the minimum resistance determined by the ENGINEER

3.3 FIELD QUALITY CONTROL

A. Dynamic pile testing shall be conducted on at least four test piles (one in each of the four quadrants of the foundation). No pile hammer change will be permitted.

B. Test pile driving shall be performed at representative locations throughout the project site.

C. Monitoring of ground vibration shall be performed by the CONTRACTOR during the pile driving operations, if sensitive structures are present in the immediate vicinity.

3.4 WAVE EQUATION ANALYSIS

A. General
   1. The CONTRACTOR shall acquire the services of Pile Dynamics, Inc., or equal to perform Wave Equation Analysis to develop driving resistance criteria following test pile installation. The analyses shall be accompanied by a report reviewing suitability of the proposed pile driving equipment to achieve the required pile penetration and ultimate compression capacity, estimating driving stresses developed in the pile, and stating the minimum energy to be transferred to the pile during driving.

3.5 DYNAMIC PILE TESTING

A. General
   1. The CONTRACTOR shall acquire the services of Pile Dynamics inc. or equal to perform dynamic pile testing. Pile Dynamics Inc. or equal shall direct the dynamic testing, measure and record strains and accelerations developed in

the pile during testing, and evaluate the test results. The CONTRACTOR shall perform the dynamic pile tests in a manner acceptable to the ENGINEER and in conformance with these Specifications. The CONTRACTOR shall provide a report of all dynamic testing signed and stamped by a licensed Professional ENGINEER.

B. Equipment
   1. The CONTRACTOR shall provide all equipment and labor necessary to install the monitoring sensors on the test piles, and to remove then at the completion of testing. The equipment to be used for dynamic testing of piles shall be the Pile Driving Analyzer (PDA) as furnished by Pile Dynamics, Inc., or equal.

      At least four piles (one in each of the four quadrants of the foundation) shall be monitored with a PDA during the production pile driving operations, in order to establish the driving criteria and verify the design capacity of the piles.
   2. The CONTRACTOR shall provide safe and reasonable means to access the pile for attaching instruments after the pile is placed in the leads.
   3. The CONTRACTOR shall furnish electric power for the dynamic test equipment. If a field generator is used as the power source, it shall be equipped with functioning meters for monitoring voltage and frequency levels.
C. Procedure
   1. Dynamic testing will be performed during driving of all designated test piles. The stresses in the piles will be monitored during driving to ensure that the stress does not exceed the maximum limits specified. The CONTRACTOR shall reduce the energy transmitted to the pile by using additional cushions or reducing the energy of the hammer in order to maintain the above criteria.

3.6 TEST PILE DRIVING

A. The test piles shall be of the same material and section as the production piles. The test piles shall be driven using the same equipment and methods as for the production piles.

B. Test piles meeting the required load requirements and location tolerances herein shall be incorporated into the structure foundation.

A.

+ + END OF SECTION + +

SECTION 32 01 00.91

RESTORATION OF SURFACES

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes restoration and maintenance of all types of surfaces, sidewalks, curbs, gutters, culverts and other features disturbed, damaged or destroyed during the performance of the work under or as a result of the operations of the Contract.
B. The quality of materials and the performance of work used in the restoration shall produce a surface or feature equal to the condition of each before the work began.

1.2 REFERENCES

A. Materials and installation shall comply with the latest revision of the following codes, standards and specifications, except where more stringent requirements have been specified herein:
    1. American Society for Testing and Materials (ASTM)
        a. D698 - Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3) (600 kN-m/m3).
        b. D1557- Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3) (2,700 kN-m/m3)

1.3 SUBMITTALS

A. Submit the following in with the General Provisions.
    1. A schedule of restoration operations. After an accepted schedule has been agreed upon it shall be adhered to unless otherwise revised with the approval of the ENGINEER.
    2. A Deviation Schedule if there is a proposed change from the original schedule.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.1 GENERAL

A. In general, permanent restoration of paved surfaces will not be permitted until one month has elapsed after excavations have been completely backfilled as specified. A greater length of time may be granted before permanent restoration of surfaces is undertaken if additional time is required for shrinkage and settlement of the backfill.

B. The replacement of surfaces at any time, as scheduled or as directed, shall not relieve the CONTRACTOR of responsibility to repair damages by settlement or other failures.

3.2 TEMPORARY PAVEMENT

A. Immediately upon completion of refilling of the trench or excavation, the CONTRACTOR shall place a temporary pavement over all disturbed areas of streets, driveways, sidewalks, and other traveled places where the original surface has been disturbed as a result of construction operations.
B. Unless otherwise specified or directed the temporary pavement shall consist of compacted run-of-crusher limestone to such a depth as required to withstand the traffic to which it will be subjected.
C. Where concrete pavements are removed, the temporary pavement shall be surfaced with asphalt "cold patch". The surface of the temporary pavement shall conform to the slope and grade of the area being restored.
D. Control of dust shall be the CONTRACTOR's responsibility. All surfaces shall be treated as frequently as may be required in the opinion of the Department's Representative.
E. Temporary pavement shall be maintained by the CONTRACTOR in a safe and satisfactory condition until such time as the permanent pavement is completed. The CONTRACTOR shall immediately remove and restore all pavement that is deemed unsatisfactory to the Department's Representative.

3.3 PERMANENT PAVEMENT REPLACEMENT

A. The permanent and final repaving of all streets, driveways and surfaces where pavement has been removed, disturbed, settled or damaged by or as a result of performance of the Contract shall be repaired and replaced by the CONTRACTOR, with a new and similar pavement.
    1. The top surface shall conform with the grade of existing adjacent pavement and the entire replacement shall meet the current specifications of the local government for each type of pavement.
    2. Where the local government has no specification for the type of pavement, the work shall be done in conformity with the State Department of Transportation.
    3. Transportation Standard which conforms to the closest type of surface requiring replacement, as determined by the Department's Representative.

3.4 PREPARATION FOR PERMANENT PAVEMENT

A. When scheduled and within the time specified, the temporary pavement shall be removed and a base prepared, at the depth required by the local government or Highway Permit, to receive the permanent pavement.
    1. The base shall be brought to the required grade and cross-section and thoroughly compacted before placing the permanent pavement.

2. Any base material that has become unstable for any reason shall be removed and replaced with compacted base materials.

B. Prior to placing the permanent pavement, all service boxes, manhole frames, manhole covers, and similar structures within the area shall be adjusted to the established grade and cross-section.

C. The edges of existing asphalt pavement shall be sawcut to a minimum of 1 foot beyond the excavation or disturbed base, whichever is greater.
   1. All cuts shall be parallel or perpendicular to the centerline of the street, unless otherwise shown or directed.

3.5 ASPHALT PAVEMENT

A. The permanent asphalt pavement replacement shall be replaced with bituminous materials of the same depth and kind as the existing materials unless otherwise specified.

B. Prior to placing of any bituminous pavement, a tack coat sealer shall be applied to the edges of the existing pavement and other features.

C. The furnishing, handling, and compaction of all bituminous materials shall be in accordance with the New York State Department of Transportation Standards.

3.6 CONCRETE PAVEMENT AND PAVEMENT BASE

A. Concrete pavements and concrete bases for asphalt, brick or other pavement surfaces shall be replaced with 4,000 psi concrete, air-entrained.

B. Paving slabs or concrete bases shall be constructed to extend 1 foot beyond each side of the trench and be supported on undisturbed soil. Where such extension of the pavement will leave less than 2 feet of original pavement slab or base, the repair of the pavement slab or base shall be extended to replace the slab to the original edge of the pavement or base unless otherwise indicated on the Contract Drawings.

C. Where the edge of the pavement slab or concrete base slab falls within the excavation, the excavation shall be backfilled with Special Backfill compacted to 95% maximum dry density as determined by ASTM D 698 up to the base of the concrete.

D. The new concrete shall be of the same thickness as the slab being replaced and shall contain reinforcement equal to the old pavement.
   1. New concrete shall be placed and cured in accordance with the applicable provisions of the New York State Department of Transportation Standards.

3.7 STONE OR GRAVEL PAVEMENT

A. All pavement and other areas surfaced with stone or gravel shall be replaced with material to match the existing surface unless otherwise specified.
   1. The depth of the stone or gravel shall be at least equal to the existing.
   2. After compaction the surface shall conform to the slope and grade of the area being replaced.

3.8 CONCRETE WALKS, CURBS AND GUTTER REPLACEMENT

A. Concrete walks, curbs, and gutters removed or damaged in connection with or as a result of the construction operations shall be replaced with new construction.
    1. The minimum replacement will be a flag or block of sidewalk.
B. Walks shall be constructed of Class "B" concrete, air-entrained with stone aggregate on a 4-inch base of compacted gravel or stone.
    1. The walk shall be no less than 4 inches in thickness. Otherwise, the thickness of the replaced walk where greater than 4 inches shall have construction joints spaced no more than 25 feet apart, shall have expansion joints spaced no more than 50 feet apart, and shall be sloped at right angles to the longitudinal centerline at approximately an inch per foot of width.
C. One-half (1/2) inch expansion joint material shall be placed around all objects within the sidewalk area as well as objects to which the new concrete will abut, such as valve boxes, manhole frames, curbs, buildings and others.
D. Walks shall be hand-floated and broom-finished, edged and grooved at construction joints and at intermediate intervals matching those intervals of the walk being replaced.
    1. The intermediate grooves shall be scored a minimum of 1/4 of the depth of the walk.
    2. The lengths of blocks formed by the grooving tool, and distances between construction and expansion joints shall be uniform throughout the length of the walk in any one location.
E. The minimum length of curb or gutter to be left in place or replaced shall be 5 feet. Where a full section is not being replaced, the existing curb or gutter shall be sawcut to provide a true edge.
    1. The restored curb or gutter shall be the same shape, thickness and finish as being replaced and shall be built of the same concrete and have construction and expansion joints as stated above for sidewalks.
F. All concrete shall be placed and cured as specified in Technical Specification 03 30 00 “Cast in Place Concrete”.

3.9 LAWNS AND IMPROVED AREAS

A. The area to receive topsoil shall be graded to a depth of not less than 4 inches or as specified below the proposed finished surface.
    1. If the depth of existing topsoil prior to construction was greater than 4 inches, topsoil shall be replaced to that depth.
B. The furnishing and placing of topsoil, seed and mulch shall be in accordance with the Technical Specifications 32 72 00 “Habitat Restoration” or 32 92 00 "Lawns and Meadows".
C. When required to obtain germination, the seeded areas shall be watered in such a manner as to prevent washing out of the seed.
D. Any washout or damage that occurs shall be regraded and reseeded until a good sod is established.
E. The CONTRACTOR shall maintain the newly seeded areas, including regrading, reseeding, watering, and mowing in accordance with Technical Specification s 32 72 00 “Habitat Restoration” or 32 92 00 "Lawns and Meadows".

3.10 CULTIVATED AREA REPLACEMENT

A. Areas of cultivated lands shall be graded to a depth to receive topsoil of not less than the depth of the topsoil before being disturbed. All debris and inorganic material shall be removed prior to the placing of the topsoil.
B. The furnishing and placing of topsoil shall be in accordance with Technical Specification s 32 72 00 “Habitat Restoration” or 32 92 00 "Lawns and Meadows".
C. After the topsoil has been placed and graded, the entire area disturbed during construction shall be cultivated to a minimum depth of 12 inches with typical farm equipment.
    1. Any debris or inorganic materials appearing shall be removed.
    2. The removal of stones shall be governed by the adjacent undisturbed cultivated area.
D. Grass areas shall be re-seeded using a mixture equal to that of the area before being disturbed, unless otherwise specified.

3.11 OTHER TYPES OF RESTORATION

A. Trees, shrubs and landscape items damaged or destroyed as a result of the construction operations shall be replaced in like species and size.
    1. All planting and care thereof shall meet the standards of the American Nursery and Landscaper Association.
B. Swales and other water courses shall be reshaped to the original grade and cross-section and all debris removed. Where required to prevent erosion, the bottom and sides of the water course shall be protected.
C. Storm sewers and culverts damaged or removed as a result of the construction operations shall be replaced with like size and material and shall be replaced at the original location and grade. When there is minor damage to a pipe, and with the consent of the Department’s Representative, a repair may be undertaken if satisfactory results can be obtained.
D. Should brick pavements be encountered in the work, the restoration shall be as set forth in the Special Provisions, or as directed.

+ + END OF SECTION + +

SECTION 32 31 13

CHAIN LINK FENCE AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes all labor, materials and equipment to properly install fence framework, fabric, and gates as shown on the Contract Drawings or as ordered by the ENGINEER, complete with accessories.

B. Certain features of chain link fences and gates shall be as shown or scheduled on the Contract Drawings.

1.2 REFERENCES

A. Materials and installation shall comply with the latest revision of the following codes, standards and specifications, except where more stringent requirements have been specified herein or shown on the Contract Drawings:
   1. American Society for Testing and Materials (ASTM)
      a. A90 - Test Method for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles
      b. A121 - Specification for Zinc-Coated (Galvanized) Steel Barbed Wire
      c. A392 - Specification for Zinc-Coated Steel Chain-Link Fence Fabric
      d. A428 - Test Method for Weight of Coating on Aluminum-Coated Iron or Steel Articles
      e. A491 - Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
      f. A585 - Specification for Aluminum-Coated Steel Barbed Wire
      g. A817 - Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric
      h. A824 - Specification for Metallic-Coated Steel Marcelled Tension Wire for Use with Chain-Link Fence
      i. A1011 - Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength Low-Alloy with Improved Formability
      j. B117 - Method of Salt Spray (Fog) Testing
      k. C94 - Ready-Mixed Concrete
      l. F567 - Standard Practice for Installation of Chain-Link Fence
      m. F626 - Specification for Fence Fittings
      n. F1043 - Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework
      o. F1083 - Standard Specification for Pipe, Steel and Hot Dipped Zinc Coated, (Galvanized) Welded, for Fence Structures

1.3 COORDINATION REQUIREMENTS

A. Coordinate layout and installation of chain link fences and gates with surveyor, site features and ENGINEER.

B. Pre-installation Meetings: Coordinate with DEPARTMENT and ENGINEER prior to installation on fences and gates.

C. Scheduling: Schedule fences and gate installation with DEPARTMENT and ENGINEER one week in advance of the work.

1.4 SUBMITTALS

A. Submit the following in accordance with the General Provisions.
   1. Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of the referenced standards, this specification and the Contract Drawings.

B. Product Data: "Catalog cuts" and specification sheets indicating details of fence and gate construction, fence height, post spacing, dimensions and unit weights of framework and concrete footing details marked to specifically indicate the materials proposed for this project. Indicate selections with arrows, and cross out irrelevant data.

C. Certificates: Submit manufacturer's affidavit stating compliance with all applicable provisions of all ASTM specifications specified herein.

D. Qualification Statements: Provide statement indicating fence installer has five years' experience in installing the specified fence and gate.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver and store fence and gate materials to prevent damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project:
   1. Allied Tube & Conduit Corp.
   2. Anchor Fence, Inc.
   3. Page Aluminized Steel Corp.
   4. Or equal

2.2 GENERAL

A. Framework: Type I

1. Type I - Schedule 40 steel pipe with 1.8 ounces of zinc coating per square foot of surface area conforming to Standard Specification ASTM F1083
2. Pipe shall be straight, true to section and conform to the following weights:

Pipe Size	
1 5/8"	2.27
2"	2.72
2-1/2"	3.65
3"	5.79
3-1/2"	7.58
4"	9.11

B. Fabric: Zinc-Coated Steel.
1. Zinc-coated fabric shall be galvanized after weaving with a minimum 2.0 ounces of zinc per square foot of surface area and conform to ASTM A 392, Class 2.

C. Fittings:
1. Pressed steel or cast iron, galvanized with a minimum of 1.2 ounces of zinc per square foot of surface area, or cast aluminum alloy, all conforming to ASTM F 626.

2.3 CONCRETE MIX

A. ASTM C 94 Portland Cement concrete with maximum 3/4" aggregate having a minimum compressive strength of 4,000 PSI at 28 days.

2.4 MATERIALS AND CONSTRUCTION

A. Fence Posts
1. Fence posts shall be sized as follows:

Fabric Height	**Line Post O.D.**	**Terminal Post O.D.**
Under 6'	2"	3"
6' to 9'	2-1/2"	3"
9' to 12'	3"	4"

B. Gate Posts
   1. Gate posts shall be sized as follows:

Single Gate Width	Double Gate Width	Type I Post O.D.
Up to 6'	Up to 12"	3"
7' to 12'	13' to 25'	4"
13' to 18'	25' to 36'	6 5/8"

C. Rails and Braces
   1. Rails and braces shall be 1 5/8" O.D., Type I or Type II.

D. Fabric
   1. Fabric shall be galvanized or aluminum-coated steel wire, 9 gage, woven in a 2-inch diamond mesh with top selvage twisted and barbed and bottom selvage knuckled. Fence heights up to 12 feet shall be one-piece widths.

E. Gates
   1. The following gate sizes, types and quantities shall be included unless otherwise directed by the ENGINEER:

Size	Quantity
24 FT Double Swing Gate	4
20 FT Double Swing Gate	2
16 FT Double Swing Gate	6
6 FT Man Gate	14

   2. Gates shall have frame assembly of 2-inches O.D., Type I pipe with welded joints. Weld areas repaired with zinc-rich coating applied per manufacturer's directions. Fabric shall match fence. Gate accessories, hinges, latches, center stops, keepers and necessary hardware shall be of quality required for industrial and commercial application. Latches shall permit padlocking of gate.

F. Fittings
   1. Post caps shall be pressed steel, cast iron or cast aluminum alloy designed to fit snugly over posts to exclude moisture. Supply cone type caps for terminal posts and loop type for line posts.
   2. Rail and brace ends shall be pressed steel, cast iron or cast aluminum alloy, cup-shaped to receive rail and brace ends.
   3. Top rail sleeves shall be tubular steel, 0.051 thickness by 7 inches long, expansion type.
   4. Tension bars shall be steel strip, 5/8 inch wide by 3/16 inch thick.

5. Tension bands shall be pressed steel, 14 gage thickness by 3/4 inch wide.
6. Brace bands shall be pressed steel, 12 gage thickness by 3/4 inch wide.
7. Truss rods shall be steel rod, 3/8-inch diameter merchant quality with turnbuckle.
8. Barbed wire arms shall be pressed steel, cast iron or cast aluminum alloy fitted with clips or slots for attaching three strands of barbed wire. Arms shall be set outward on a 45-degree angle and be capable of supporting a 250-pound load at outer barbed wire connecting point without causing permanent deflection.

G. Tension Wire
1. Tension wire shall be marcelled 7 gage steel wire with minimum coating of 0.80 ounces of zinc or 0.40 ounces of aluminum per square foot of wire surface and conforming to ASTM A824.

H. Tie Wires
1. Tie wires shall be aluminum 9 gage, alloy 1100-H4, A58 self-locking fabric bands or equal.

I. Hog Rings
1. Hog rings shall be steel wire, 11 gage with a minimum zinc coating of 0.80 ounces per square foot of wire surface.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install 12,600 lf of fence and gates as specified here, shown on the Contract Drawings and in accordance with the manufacturer's installation instructions.
B. Fence installation shall conform to requirements of ASTM F 567.
C. Provide fence heights as shown on Contract Drawings.
D. Space line posts at intervals not exceeding ten feet.
E. Set terminal, gate and line posts plumb in concrete footings as shown on Contract Drawings. Top of footing shall be 2 inches above grade and sloped to direct water away from posts.
F. Brace gate and terminal posts back to adjacent line posts with horizontal brace rails and diagonal truss rods.
G. Stretch top tension wire between terminal posts a maximum of 6 inches below top of posts and fasten to outside of line posts with tie wires.
H. Stretch bottom tension wire between terminal posts 6 inches above grade and fasten to outside of line posts with tie wires.
I. Pull fabric taut to provide a smooth uniform appearance, free from sag, with bottom selvage 2-inches above grade. Fasten to terminal posts with tension bars threaded through mesh and secured with tension bands at maximum 15-inch intervals. Tie to line posts and top rails with tie wires spaced at maximum 12-inches on posts and 24-inches on rails. Attach to bottom tension wire with hog rings at maximum 24-inch intervals.

J. Install gates plumb, level and secure for full opening without interference. Anchor center stops and keepers in concrete. Adjust and lubricate hardware for smooth operation.

K. Install nuts for fittings, bands and hardware bolts on inside of fence. Peen ends of bolts or score threads to prevent removal.

+ + END OF SECTION + +

SECTION 32 72 00

HABITAT RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes topsoil, seed, plantings, mulch, and associated work with habitat restoration. The vegetative seed mixes and plantings provided in this specification are to be applied to the site based on the vegetative cover types defined on the Contract Drawings or as directed by the ENGINEER.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. 31 20 00 – Earth Moving

B. 32 01 00 – Restoration of Surfaces

C. 32 92 00 – Lawns and Meadows

1.3 REFERENCES

A. Restoration activities shall be performed in compliance with the following:
   1. New York State Department of Environmental Conservation, Explanation of Significant Differences (April 19, 2025).
   2. Sections 401 and 404 of the Clean Water Act.
   3. Conditions of permits issued by the U.S. Army Corps of Engineers (USACE), NYSDEC, and others.

1.4 PERFORMANCE REQUIREMENTS

A. The CONTRACTOR shall comply with all applicable federal, State and local codes, ordinances, regulations, statutes and standards.

1.5 SUBMITTALS

A. The following items shall be submitted:
   1. The location of source and data for off-site topsoil and subgrade fill. Samples and test reports of each material shall include pH, organic matter, particle size distribution and analytical that complies with Part 375 Unrestricted Use Soil Cleanup Objectives.
   2. Source and content data for all seed mixes, plants, and trees. Data for each container of seed used shall be submitted; data submitted as representative of multiple containers will not be accepted.

3. Description of seed application method. Should hydroseeder be used, the CONTRACTOR shall submit all data including material and application rates.
4. Submit certificates from plant nursery stock supplier for each group of live plant stock required, stating botanical name, common name, origin, age, date of packaging, and name and address of supplier. Submit at least 4 weeks prior to planting.
5. Invoices for all plants and seed procured for the project shall be submitted.
6. Source and content data for organic mulch (e.g., straw). If synthetic mulch is used, catalog data that includes the manufacturer, materials, and installation procedures, shall be submitted.
7. Source, dimensions, and materials for bluebird houses and conical guards.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil shall be unfrozen friable silt loam free from clay lumps, stones, roots, sticks, stumps, brush or foreign objects.

1. Topsoil shall have moderate pH (5 to 7.5) and organic matter concentration between 3% - 10%.
2. Topsoil shall be comprised of the following particle sizes:
   a. At least 50% silt (0.05 to 0.002 mm dia.) and 12 to 27% clay (less than 0.002 mm dia.) or
   b. 50 to 80% silt and less than 12% clay.
3. All topsoil used for habitat restoration shall satisfy the Unrestricted Use and/or Protection of Ecological Resources Soil Cleanup Objectives, established in NYCRR Part 375-6.7(d), as applicable.
4. Prior to and during installation of the topsoil layer, material from the borrow source shall be tested in accordance with the following standards and frequencies:

Parameter	Standard	Frequency
Topsoil Particle Size	ASTM D422	Once per 500 cy
Topsoil pH	ASTM 4972	Once per 500 cy
Topsoil Organic Content	ASTM 2974	Once per 500 cy

B. Seed mixtures shall be of commercial stock of the current or prior season's crop and shall be delivered in unopened containers bearing the guaranteed analysis of the mix. Seed shall be labeled true to species and variety. The percent of pure live strain of the seed shall be submitted with the seed mixture.

D. The seed supplier shall provide a seed analysis report including certified analyses of percent viability, percent weed seeds, and percent of other crop seed. The certifying laboratory shall be indicated on the seed tag or on associated submittals.

E. The state of origin of the seed shall be indicated on the seed tag or on associated submittals.

F. The following weed seeds, stems or rhizomes shall not be present in any seed mix:
   1. Smooth brome (Bromus inermis)
   2. Tall fescue (Schedonorus phoenix)
   3. Purple loosestrife (Lythrum salicaria)
   4. Common reed (Phragmites australis)
   5. Cattail (Typha angustifolia, T. x glauca)
   6. Reed canarygrass (Phalaris arundinacea)

G. All seed shall meet the standards of germination and purity set by New York State or the Association of Official Seed Certifying Agencies (AOSCA).

H. Remediation of the Utica City Dump site includes restoration of the following wetland and aquatic habitats on the site perimeter:

   Zone A - Emergent wetland that supports a mix of vegetative species that thrive in intermittently exposed and shallow (0 to 6-inches of water) emergent areas.
   Zone B - Wet meadow that supports a mix of vegetative species that thrive in intermittently flooded, seasonally saturated areas.
   Zone C - Scrub-shrub wetland that supports a mix of shrub and vegetative species that thrive in intermittently exposed and shallow (0 to 6-inches) water.
   Zone D - Floodplain forest wetland that supports a mix of vegetative and deciduous tree species that thrive in intermittently exposed and shallow (0 to 6-inches) water.
   Zone E - Submerged aquatic habitat that transitions from shallow emergent habitat to an approximate water depth of 4 ft.

I. The following seed and plant mixtures shall be applied as to areas indicated below:

Zone A – Emergent

Table 4. Zone A – Emergent Seed Mix

Content (%)	Common Name	Botanical Name
20	Virginia Wild Rye	*Elymus virginicus*
10	American Bur Reed	*Sparganium americanum*
10	Water Smartweed	*Polygonum amphibium*
5	Soft-stem Bulrush	*Scirpus validus*
5	Duck potato	*Sagitaria latifolia*
5	Lurid (Shallow) Sedge	*Carex lurida*
5	Fox Sedge	*Carex vulpinoidea*
5	Water Plantain	*Alisma subcordatum*
5	Soft Rush	*Juncus effusus*

Table 4. Zone A – Emergent Seed Mix

Content (%)	Common Name	Botanical Name
5	Wool Grass	*Scirpus cyperinus*
5	Eastern Bur Reed	*Sparganium americanum*
5	Dark Green Bulrush	*Scirpus atrovirens*
5	Hard-stem bulrush	*Schoenoplectus acutus*
5	Rattlesnake Grass	*Glyceria canadensis*
5	Rice Cutgrass	*Leersia oryzoides*

Note: Apply seed at 40 lbs. per acre to Zone A areas

Source: Ramboll

Table 5. Zone A - Emergent Plant Mix

Common Name	Botanical Name
American Bur Reed	*Sparganium americanum*
Duck potato	*Sagitaria latifolia*
Water Plantain	*Alisma subcordatum*
Sensitive Fern	*Onoclea sensibilis*

Notes: Individual 2 inch diameter plugs or 1-gallon containers shall be planted at a density of 3 plants per 10 square feet in the area indicated as Zone A.

Source: Ramboll

Zone B Wet Meadow

Table 6. Zone B – Wet Meadow Seed Mix

Content (%)	Common Name	Botanical Name
15	Red Top Grass	*Agrostis alba*
12	Virginia Wild Rye	*Elymus virginicus*
5	Soft Rush	*Juncus effusus*
5	Spotted touch me not	*Impatiens capensis*
5	Pale touch me not	*Impatiens pallida*
5	Beggar Ticks	*Bidens frondosa*
5	Umbrella Sedge	*Cyperus strigosus*
5	Blue Vervain	*Verbena hastata*
5	Jerusalem Artichoke	*Helianthus tuberosus*
5	Grass Leaved Goldenrod	*Euthamia graminifolia*

Table 6. Zone B – Wet Meadow Seed Mix

Content (%)	Common Name	Botanical Name
5	Swamp Milkweed	*Asclepias incarnata*
5	Purple Stemmed Aster	*Aster puniceus*
5	Joe Pye Weed	*Eupatorium maculatum*
5	Boneset	*Eupatorium perfoliatum*
2	Fox Sedge	*Carex vulpinoidea*
2	Field Horsetail	*Equisetum arvense*
2	Rough Horsetail	*Equisetum hyemale*
2	Nodding Bur Marigold	*Bidens cernua*
1	Indian Hemp	*Apocynum cannabinum*
1	Water Horehound	*Lycopus americanus*
1	Monkey Flower	*Mimulus ringens*
1	Awl Sedge	*Carex stipata*
1	False Nettle	*Boehmaria cylindrica*

Note: Apply seed at 40 lbs. per acre to Zone B areas

Source: Ramboll

Table 7. Zone B – Wet Meadow Plant Mix

Common Name	Botanical Name
Cinnamon Fern	*Osmunda cinnamomea*
Sensitive Fern	*Onoclea sensibilis*
Joe-pye-weed	*Eupatorium maculatum*
Boneset	*Eupatorium perfoliatum*

Notes: Individual 2-inch diameter plugs or 1-gallon containers shall be planted at a density of 3 plants per 10 square feet in the area indicated as Zone B.

Source: Ramboll

Zone C Scrub-Shrub

Table 8. Zone C – Scrub-Shrub Seed Mix

Content (%)	Common Name	Botanical Name
42	Virginia Wild Rye	*Elymus virginicus*
25	Fox Sedge	*Carex vulpinoidea*
11	Soft rush	*Juncus effusus*
5	Hop Sedge	*Carex lupulina*

Table 8. Zone C – Scrub-Shrub Seed Mix

Content (%)	Common Name	Botanical Name
5	Grass Leaved Goldenrod	*Euthamia graminifolia*
5	Umbrella Sedge	*Cyperus strigosus*
3	Pennsylvania smartweed	*Polygonum pensylvanicum*
2	Awl Sedge	*Carex stipata*
1	Cosmos (Bristly) Sedge	*Carex comosa*
1	Nodding Bur Marigold	*Bidens cernua*

Note: Apply seed at 20 lbs. per acre to Zone C areas

Source: Ramboll

Table 9. Zone C – Scrub Shrub Plant Mix

Common Name	Botanical Name
Buttonbush	*Cephalanthus occidentalis*
Red Osier Dogwood	*Cornus sericea*
Speckled Alder	*Alnus rugosa*
Arrowwood	*Viburnum dentatum*
Elderberry	*Sambucus canadensis*
Black Willow	*Salix nigra*

Note: No. 2 size pots of shrubs shall be planted at a density of 1 per 16 square feet, alternating species such that equal numbers of each species are planted.

Source: Ramboll

Zone D – Floodplain Forest

Table 10. Zone D – Floodplain Forest Seed Mix

Content (%)	Common Name	Botanical Name
34	Big Bluestem	*Andropogon gerardii*
20	Switchgrass	*Panicum virgatum*
15	Virginia Wildrye	*Elymus virginicus*
10	Purpletop	*Tridens flavus*
5	Coastal Panicgrass	*Panicum amarum*
5	Partridge Pea	*Chamaecrista fasciculata*
3	Blackeyed Susan	*Rudbeckia hirta*
3	Fowl Bluegrass	*Poa palustris*
2	Showy Ticktrefoil	*Desmodium canadense*

Table 10. Zone D – Floodplain Forest Seed Mix

Content (%)	Common Name	Botanical Name
2	Oxeye Sunflower	*Heliopsis helianthoides*
1	Plains Coreopsis	*Coreopsis tinctoria*

Note: Apply seed at 20 lbs. per acre to Floodplain Forest areas

Source: Ramboll

Table 11. Zone D – Floodplain Forest Plant Mix

Common Name	Botanical Name
Slippery Elm	*Ulmus rubra*
Eastern Cottonwood	*Populus deltoides*
American Sycamore	*Platanus occidentalis*
Swamp White Oak	*Quercus bicolor*
American Hornbeam	*Carpinus caroliniana*
Black Willow	*Salix nigra*

Note: No. 2 size pots of trees shall be planted at a density of 1 per 64 square feet, alternating species such that equal numbers of each species are planted.

Source: Ramboll

Zone E Subaqueous Habitat

Table 12. Zone E Subaqueous Plant Mix

Common Name	Species
White waterlily	*Nymphaea odorata*
Yellow waterlily	*Nuphar lutea*
American elodea	*Elodea americanum*
Long-leaved pondweed	*Potamogeton nodosus*
Clasping-leaved pondweed	*Potamogeton perfoliatus*
Duck potato	*Sagittaria rigida*
Wild celery	*Vallisneria americana*
Wild rice	*Zizania aquatia*

Note: Plugs shall be planted at 4-ft spacing, alternating species such that equal numbers of each species are planted.

Source: Ramboll

J. Plantings

1. All plant materials shall comply with state and federal laws with respect to inspection for plant diseases and insect infestations.
2. Plants shall be in accordance with the current edition of the American Standard for Nursery Stock (ANSI Z60.1-2004) unless otherwise specified.
3. Woody plants shall be of high quality and symmetrical. They shall be healthy, well branched and densely foliated when in leaf.
4. Plants shall be free of disease and insects, eggs, or larvae, and have healthy, well-developed root systems such that the root ball does not fall apart upon plant removal from the pot or tray.
5. Plants shall be tagged true to species name and variety and not contain weeds.
   a. For plugs, each tray shall be tagged
   b. For trees and shrubs in individual pots, each pot or stem shall be tagged.
6. Plants shall arrive at the job site free from physical damage.
7. Trays of grass and sedge plugs may be stacked during shipment. Forbs shall not be stacked.
8. Each species shall be handled and packed in a manner approved for that plant. All precautions that are customary in good trade practice shall be taken such that plants arrive at the Site in good condition. Plants that arrive dried out, exposed to excessive heat, or that have been in storage for protracted periods of time, will not be accepted. If, upon inspection, the plants or root stocks display mold or decay, the material will not be accepted.
9. All woody seedlings shall have a heavy fibrous root system that has been developed by proper horticultural treatment, transplanting, and root pruning.
10. "Plugs" shall have root balls 2 to 4 inches in diameter
11. "Pots" shall be minimum 1-gallon size (or as specified or in paragraph I, above).

K. Mulch shall be stalks of oats, wheat, cereal rye or other approved crops which are free from noxious weeds. Mulch may also be hydromulch with tackifier that is made out of bio-degradable material. Photodegradable blankets or plastic blankets cannot be used.

L. Bluebird Nest Boxes

1. Nest boxes shall be made from insect and rot resistant cedar, with s.s. hardware and shall have a floor area of approximately 5 in x 5 in x 8 in and a 2 in diameter entrance hole.
2. Each box shall be mounted on a metal T-post with a 24- or 26-gauge galvanized sheet metal, 3 ft x 3 ft conical predator guard located below the box.

PART 3 - EXECUTION

3.1. GENERAL

Trees outside of the excavation area that are greater than 6 inches DBH should be protected by placing a barrier around the tree at the tree drip-line. This applies to trees

that are near the movement of construction equipment, with the intention of the barrier to prevent damage through inadvertent driving, bucket swings and lifts, etc.

3.2. INSTALLATION

A. Once excavated to the specified elevations, place topsoil within habitat restoration areas and rough grade to achieve a minimum depth of 12-inches. Finished grade may vary from the 12-inch depth proposed by up to 4-inches but shall average 12-inches. The topsoil shall not be compacted or fine graded but shall be loose and non-uniform such that an irregular (i.e., includes hummocks and hollows) surface results. Topsoil shall be placed to achieve finished grade as indicated on Contract Drawings.

B. Soil staging activities shall be coordinated with the ENGINEER prior to placement. Excess select fill or topsoil shall be disposed of on-site in an approved location or off-site. Silt fence or equivalent shall be installed around the perimeter of the disposal area(s) until disposal activities are completed, and the area(s) is graded, seeded, and mulched. Silt fence or equivalent shall be removed after a minimum of 80% of vegetative coverage is achieved.

C. Seeding shall be performed during two seasonal windows: mid-April through May or November through mid-December. If site soils require temporary stabilization, they shall be temporarily seeded and mulched using 30 pounds per acre of oats (Avena sativa).

D. Alternative species, seed mixes or planting/seeding dates may be used with ENGINEER approval only.

E. Procedures for planting woody potted stock:

1. Potted trees and shrubs shall be planted from mid-April to late May or from September through December.
2. The planting hole diameter shall be at least 1.5 times the diameter of the root ball and dug to a depth such that the root flare is even with the finished grade when the plant is placed in the hole.
3. If the planting hole is initially dug too deeply, soil shall be added back into the hole to attain the proper elevation.
4. Loosen roots encircling the root ball by hand and install the plant as soon as possible once it has been removed from the pot.
5. Backfill the planting hole and firmly work soil into and around the root ball with care taken to fill in air spaces.
6. Tamp the backfill with foot pressure sufficient to prevent the root ball from shifting or leaning.
7. Leave the top of the root ball exposed in order to allow water to flow down into it.
8. Form earthen water-holding saucers (4 inches deep with a similar diameter as the planting hole) around each plant.

9. Water all plants immediately after planting. Apply water directly to the root ball and adjacent soil. Fill the water holding saucer with water.
10. Following installation, remove all tags, labels, strings, etc. from all plants.
11. Planting procedures for plugs shall follow those outlined above for woody species with the following exceptions:
    a. Planting of plugs shall occur from mid-April to early June.
    b. Plugs shall be installed such that the top of the root ball is even with the finished soil grade.
    c. The height of the water holding saucer shall be approximately 1 inch.
    d. Roots encircling the plug shall not be cut.
    e. Following planting, individual plugs shall be watered in a similar fashion as woody plants or 1 inch of water may be evenly applied across areas where plugs were installed.

F. Nursery grown materials shall be stored under continuously cool, covered, and moist conditions prior to use.

G. Seed shall be applied to any Zone to receive potted plugs or plants after placement of the stock.

J. Habitat structure (i.e., coarse woody debris, brush piles and rock piles) shall be placed randomly throughout each habitat restoration area in accordance with the Contract Drawings and the following:
1. Coarse woody debris shall consist of cleared site trees obtained from materials cleared as part of on-site construction activities.
2. Only native species shall be used. Preference shall be given to willow trees since they have the potential to resprout growth, thereby enhancing vegetative restoration.
3. Place stockpiled debris as directed prior to planting.

I. When the topsoil surface has been graded, the seed mixture shall be uniformly applied by a method approved by the ENGINEER.
1. Tracking shall be performed over seeded areas using the tracks of a bulldozer (or equivalent), running perpendicular to the slope gradient where present. In areas receiving trees or shrubs, soil tracking shall occur before tree installation and seed broadcasting.
2. Seeding and mulching shall not be done during windy weather.

J. The mulch shall be hand or machine spread over restored areas to form a continuous blanket over the seed bed:

1. If straw mulch or similar is used, approximately 1 to 1.5 inches uniform thickness at loose measurement shall be applied. Excessive amounts or bunching of mulch will not be permitted.

2. If hydromulch is used, these mulches shall be installed at a rate recommended by the manufacturer.

K. Hydroseeding may be accepted as an alternative method of applying seed and mulch. The CONTRACTOR shall submit all data regarding materials and application rates to the ENGINEER for review.

L. Unless otherwise specified, mulch shall be left in place and allowed to disintegrate.

M. Sufficient water shall be applied to each plant to maintain plant health and vigor. Watering of herbaceous species (i.e., seed or plugs) shall occur from July to September of the planting year if soils are not moist and if plants are showing signs of moisture stress. Watering shall be in such a manner as to prevent washing out of seed or exposing plant roots.

N. Watering of woody species (potted plants) shall occur if one inch of rain is not received during any seven-day window from June 1 through August 31 in the year of installation. Watering events may be avoided if the woody plants are not showing moisture stress and with written approval from the ENGINEER. Watering shall occur in the first July to September following planting (e.g., woody plants installed in the fall shall be watered the following year). Sufficient water shall be applied to each plant to maintain plant health and vigor.

O. Temporary fencing for herbivory control shall be installed around Scrub-Shrub and Floodplain Forest areas. Fence shall remain in place and be maintained in working condition until removal is approved by the ENGINEER. Areas/trees must include protection against deer browse and beaver damage and may include:

i. Area fence enclosure with a minimum height of 6-feet and no bottom gaps (i.e., in contact with the ground)
    1. Wire fence
    2. Electric fence with solar chargers if practicable
        ii. Wire mesh trunk wraps
        iii. Abrasive tree paint protection (latex paint with mason sand [20 oz sand per gallon of paint])
    3. >30 inches high

3.3 BLUEBIRD NEST BOX INSTALLATION

A. A minimum of 15 bluebird nest boxes shall be installed in non-wetland areas which have been restored with native meadow grasses.

B. Nest boxes shall be mounted facing east and approximately 5 ft above the ground. Boxes should be located a minimum of 300 feet apart and shall be equipped with a conical predator guard installed on the mounting post below the box.

3.4 MONITORING AND MAINTENANCE

A. The CONTRACTOR shall warranty the plantings and seed for a period of one year from the date of planting or until the end of the next growing season, whichever is

later. The CONTRACTOR shall replace deceased planted stock or reseed areas based on the following criteria:

1. Minimum 90% survival of planted stock
2. Minimum 80% ground coverage of seeded areas
3. Plants and/or seeds shall be replaced during the optimal season for plant survival.

B. Replacements shall be of the same size originally planted and subject to the first year maintenance efforts prescribed herein.

C. Alternative species and/or seed mixes may be used during replacement with ENGINEER approval only.

D. The DEPARTMENT will monitor the restored area plantings and seed for a period of five years after construction is complete. This monitoring is not a part of this contract.

Permanent vegetative survey plots will be established by zone within representative sections of the restored areas, and recorded with a GPS unit. Vegetation plot size will be 100 square feet. Monitoring events will be performed during the growing season (i.e., April through October) and the results summarized in annual reports that will be submitted to the NYSDEC.

E. In Years 2 through 5 of the monitoring period, deceased planted stock will be replaced or bare areas reseeded based on the following criteria:
   1. Maintain 80% relative ground coverage of native species within restored areas. Species that are observed to be successful (i.e., are growing vigorously) may be substituted for less successful species.
   2. Invasive species cover shall be no more than 5% by the end of year 5.
   3. Vigorously growing non-invasive volunteer species may be included in the density and percent cover calculations.
   4. Plants and/or seeds shall be replaced during the optimal season for plant survival.

F. If invasive species are observed during the vegetative surveys, actions will be taken to eliminate invasive species problems, including but not limited to:
   1. The species, location and size of the population will be recorded as well as the control method and date of control action
   2. If the population is of manageable size (e.g., less than approximately 500 stems or 0.1 acres):
      a. Invasive plants will be manually removed by excavating roots, pulling or clipping until the population is eliminated
      b. The area that had the invasive species will be covered with a non-translucent tarp for a minimum of one growing season
      c. Invasive plants which grow up around the tarp will be pulled or clipped

3. If the population is considered to be too large for manual control methods, a NYSDEC-approved herbicide will be used according to manufacturer's instructions.
4. With agreement from NYSDEC, control methods can be adapted over time given outcomes of initial control efforts. The timing and methods for control measures will be specifically designed for each species observed.
5. Efforts to eliminate invasive species will continue throughout the monitoring period within the restored areas.
6. For the purposes of this restoration, the following species are considered invasive and subject to control measures: purple loosestrife (Lythrum salicaria), reed canary grass (Phalaris arundinacea), common reed (Phragmites australis), Japanese knotweed (Polygonum cuspidatum), and common buckthorn (Rhamnus cathartica).

G. The following additional information will be recorded during monitoring events for the five-year monitoring period. These items will be incorporated into the Monitoring Plan.
1. Date and time of data collection efforts, as well as recent weather information
2. Comparison of site conditions to pre-disturbance conditions
3. Species identification of deceased and survived restoration plants
4. Enumeration of deceased and surviving restoration plants
5. Percent vegetative cover
6 Identification of pioneer (volunteer) species
7. Percent cover and identification of invasive species
8. Surface water levels
9. Photographs from fixed reference points of each restoration area showing representative portions of the restoration areas
10. Observed fish and wildlife

+ + END OF SECTION + +

SECTION 32 92 00

LAWNS AND MEADOWS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install all lawns and meadows.
   2. Install meadow grass in any non-wetland areas of existing vegetation that are disturbed by construction activities and any new areas of soil placement.
   3. Types of products required include the following.
      a. Topsoil
      b. Meadow grass seed mixture
      c. Inorganic soil amendments
      d. Organic soil amendments
      e. Fertilizers
      f. Mulches
      g. Erosion-control materials

B. Coordination:
   1. Review installation procedures under other Sections and coordinate the installation of items that must be installed with, or before, lawns and meadows.
   2. Notify other contractors in advance of the planting of lawns and meadows to provide them with sufficient time for the installation of items that must be installed with, or before, lawns and meadows.

C. Related Sections:
   1. Section 31 25 00, Erosion and Sediment Control
   2. Section 32 31 00, Fences.
   3. Section 32 72 00, Habitat Restoration

1.2 REFERENCES

A. Standards referenced in this Section are listed below:
   1. Association of Official Analytic Chemists, (AOAC).
      a. Official Methods of Analysis of AOAC International.
   2. Association of Official Seed Analysts, (AOSA).
      a. Journal of Seed Technology; Rules for Testing Seeds.
   3. American Society of Agronomy, (ASA).
      a. Reference No. 1 - Methods of Soils Analysis, Soil Science Society of America, Incorporated.
   4. American Society for Testing and Materials, (ASTM).

a. ASTM B 221, Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
b. ASTM C 602, Specification for Agricultural Liming Materials.
c. ASTM D 75, Practice for Sampling Aggregates.
d. ASTM D 422, Test Method for Particle Size Analysis of Soil.
e. ASTM D 977, Specification for Emulsified Asphalt.
f. ASTM D 2487, Practice for Classification of Soils for Engineering Purposes (United Soil Classification System).
g. ASTM D 5268, Specification for Topsoil Used for Landscape Purposes.
h. ASTM E 329, Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
i. ASTM E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.

5. Turfgrass Producers International, (TPI).
   a. Guideline Specifications to Turfgrass Sodding.

1.3 DEFINITIONS

A. The term "finish grade" shall be used to describe the finished surface elevation of planting soil.

B. The term "manufactured topsoil" shall be used to describe soil produced off-Site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil acceptable as a component of loam.

C. The term "loam" shall be used to describe topsoil that has been mixed with additional organic and inorganic additives, as specified.

D. The term "percentage pure live seed" shall be defined as the percent (%) purity multiplied by percent (%) germination divided by 100 to equal the percent pure live seed (PLS) and shall be calculated for all seed lots using each seed lots own unique purity and germination test results. A PLS pound shall be defined as the bulk weight of seed required to equal one pound of 100 percent pure, germinated seed.

E. The term "subgrade" shall be used to describe the surface of subsoil remaining after completing excavation; or the top surface of a fill or backfill immediately beneath topsoil and which has not been tested for acceptable use as topsoil.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Engage a single landscape installer skilled, trained and with successful and documented experience in the planting of lawns and meadows and with specific skill and successful experience in the installation of the types of materials required; and who agrees to employ only tradesmen with specific

skill and successful experience in this type of Work. Submit names and qualifications to ENGINEER along with the following information on a minimum of three successful projects:

a. Names and telephone numbers of Department, architects or engineers responsible for projects.
b. Approximate contract cost of the lawns and meadows.
c. Amount of area installed.

2. Installer's Site Supervisor: Require installer to maintain an experienced full-time landscape supervisor on-Site during the time of preparation for, and planting of, lawns and meadows. Supervisor shall have achieved landscape or horticultural certification acceptable to governing authorities having jurisdiction at the Site.
3. Ratio of laborers to certified landscape supervisors shall not exceed 12 to one. Certified landscape supervisor shall be on-Site throughout the day-to-day performance of the Work of this Section.
4. Application of herbicides, chemicals and insecticides shall be done by personnel licensed to perform such applications by governing authorities having jurisdiction at the Site and in accordance with each manufacturer's instructions provided on each product label.

B. Soil-Testing Laboratory Qualifications:
1. An independent laboratory, recognized by governing authorities having jurisdiction at the Site, with the experience and capability to conduct testing indicated and that specializes in types of soil tests to be performed.
2. To qualify for approval, an independent testing agency shall demonstrate to ENGINEER'S satisfaction, based on evaluation of criteria submitted by testing agency, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work, in accordance with ASTM E 329 and as documented according to ASTM E 548.

C. References: Comply with the applicable requirements referenced in Section 01 42 00, References.

D. Soil Analysis: Furnish report of soil analysis to ENGINEER, prepared by a qualified soil-testing laboratory, stating percentages of organic matter; mechanical gradation of sand, silt, and clay content in compliance with ASTM D 422; cation exchange capacity; sodium absorption ratio; deleterious materials content; pH; and mineral and plant-nutrient content of soil. Chemical analysis shall include tests for percentages of nitrate nitrogen, ammonium nitrogen, phosphorus, potassium, calcium, iron, manganese, copper, zinc, extractable aluminum, and total soluble salts.
1. Existing On-Site Soil:
a. Separate soil stockpiled and proposed for use as topsoil for lawns and meadows into 1000 cubic yard piles and label with a numbering system used to reference all soil samples and test results.
b. Obtain a one cubic foot representative sample for each 1000 cubic yards of soil stockpiled on-Site proposed for use as topsoil for lawns

and meadows, in compliance with ASTM D 75 and Appendixes, for securing samples from stockpiles.

c. Place samples taken from each stockpile, into separate clean, new and previously unused, containers and mix thoroughly. Maintain separation and legible labeling of each sample taken from each stockpile, throughout the process of mixing, drying and delivering to soil analysis laboratory. Label samples on outside of container.

d. Take one cup of soil from each container and allow to dry at room temperature. Once dry, place each one-cup sample in a separate, accurately labeled, new and previously unused one-cup sized plastic container, seal tightly and deliver to soil testing laboratory.

e. Report suitability of soil as a topsoil component for lawn and meadow plant growth. State recommended quantities of nitrogen, phosphorus, secondary and micronutrients, potash and soil amendments to be added to produce satisfactory topsoils. Include calculations, types of fertilizer and recommendations for application rates in either gallons or pounds per cubic foot of soil.

f. In addition, all on-Site soil that will be used as topsoil shall be provided with additional compost and peat moss amendments specified, whether or not testing indicates positive need for such amendments, for such material to be used as loam.

2. Manufactured Imported Topsoil:

a. Test each 1000 cubic yards of manufactured topsoil at the proposed source. In addition, after ENGINEER'S approval of manufactured topsoil based on results and recommendations of soil testing reports, test each 1000 cubic yards of manufactured topsoil that is delivered to the Site for conformance to results and recommended modifications of approved soil test reports. Manufactured topsoil that differs from proposed source material, after modification according to recommendations of soil test reports, shall be rejected for use in the Work.

b. Obtain a one cubic foot representative sample for each 1000 cubic yards of manufactured topsoil proposed for lawn and meadow Work, in compliance with ASTM D 75 and Appendixes, for securing samples from stockpiles.

c. Place samples taken from each stockpile into separate clean, new and previously unused, containers and mix thoroughly. Maintain separation and legible labeling of each sample, taken from each stockpile, throughout the process of mixing, drying and delivering to soil analysis laboratory. Label samples on outside of container.

d. Take one cup of topsoil from each container and allow to dry at room temperature. Once dry, place each one-cup sample in a separate, accurately labeled, new and previously unused one-cup sized plastic container, seal tightly and deliver to soil testing laboratory.

e. Report suitability of manufactured topsoil as a component for lawn and meadow plant growth. State recommended quantities of nitrogen, phosphorus, secondary and micronutrients, potash and soil

amendments to be added to produce satisfactory manufactured topsoil. Include calculations, types of fertilizer and recommendations for application rates in either gallons or pounds per cubic foot of manufactured topsoil.

f. Organic component of manufactured topsoil shall be obtained from compost and peat moss amendments specified, for such material to be used as loam.

g. Chemical Analysis – Chemical analysis of soil shall be performed in accordance with NYSDEC Division of Environmental Remediation (DER-10) Technical Guidance for Site Investigation and Remediation and the most recent version of the memo "Sampling for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DEC's Part 375 Remedial Programs (NYSDEC, 2019). Analysis shall include Target Compound List (TCL) Volatile Organic Compounds (VOCs); TCL Semivolatile Organic Compounds (SVOCs); TCL Pesticides; TCL Polychlorinated Biphenyls (PCBs); Target Analyte List (TAL) Metals; and cyanide. Sample collection and analysis shall be in accordance with the approved Sampling and Analysis Plan. The results of the chemical analysis shall meet the requirements of the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Soil Cleanup Objectives found at 6 NYCRR Part 375.

h. The CONTRACTOR shall prequalify imported topsoil to be used for the project. The prequalification process will require that the CONTRACTOR identify suitable material for use for the project. The CONTRACTOR shall obtain prequalification samples from each source and each topsoil stockpile in accordance with the NYSDEC DER-10 and approved Sampling and Analysis Plan. The stockpile pre-qualification samples shall be obtained at two opposite locations to expose the core of the stockpile and allow the taking of representative samples or as approved by the ENGINEER. The CONTRACTOR shall have at least two samples (one for ENGINEER, remainder for CONTRACTOR) of material taken at each sampling location by an approved soils testing laboratory. The sampling shall be conducted in the presence of the ENGINEER. Each sample furnished to the ENGINEER shall be at least 50 pounds in weight and shall be tested by the ENGINEER, at his/her discretion, for conformance testing of the prequalification process. The CONTRACTOR shall have each "Contractor Sample" tested by the approved soils testing laboratory as prescribed above. The CONTRACTOR shall submit certified copies of the test results and test methods to the ENGINEER for review and approval. If the test results are acceptable, the CONTRACTOR may proceed with the use of the prequalified source and the prequalified stockpile material may be incorporated into the work. If the test results are not acceptable, the CONTRACTOR shall modify the proposed source as required to provide soil which satisfies the requirements of these Specifications and the CONTRACTOR shall repeat the

prequalification process (using alternative material) as described above until acceptable test results are achieved. The CONTRACTOR shall not utilize unacceptable prequalification stockpiles in the prosecution of the work.

E. Source Quality Control:
   1. Analysis and Standards: Package all products with manufacturer's certified analysis performed in accordance with methods established by AOAC, wherever applicable, or as specified.
   2. Provide manufactured imported topsoil from a commercial processing facility specializing in the manufacture of topsoil.
   3. Seed that has been stored at temperatures, or under conditions not recommended by the seed supplier, or has become wet, moldy, or otherwise damaged, shall not be acceptable. The PLS for each seed lot shall be 75 percent, minimum.
   4. Certify that all seed has been stored under conditions recommended by the seed supplier and has not been subjected to conditions damaging to PLS percentages.
   5. Seed may be mixed by an approved method on-Site or at the seed supplier's facilities. If the seed is mixed on-Site, each variety shall be delivered in the original containers and shall bear the supplier's certified analysis. Where seed is mixed by the seed supplier, provide ENGINEER with the seed supplier's certified statement as to the composition of the mixture.

1.5 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings:
      a. Schedule for meadow-planting showing anticipated planting dates for each type of Work.
   2. Product Data:
      a. Manufacturer's product data, specifications and installation instructions for all required materials.
      b. Composition and analysis of commercial fertilizers and all purchase receipts showing the total quantity actually purchased for this Project.
      c. Proportions of each component contained in hydroseed mixture. Identify number of pounds of each component required for each 100 gallons of water. Include the number of square feet of lawn, grass meadow or wildflower meadow mixture that can be installed with each full tank of hydro seed mixture.
      d. PLS for each type of seed and each seed lot. Include bulk weight of seed required to equal one pound of 100 percent pure, germinated seed.
   3. Samples:
      a. Submit 12-inch by 12-inch sheet of erosion control fabric with manufacturer's selections of standard biodegradable filler papers, and yarns.

B. Informational Submittals: Submit the following:
   1. Certificates:
      a. Certification of Grass and Wildflower Seed: For each grass-seed monostand and seed mixture, furnish seed supplier's certification stating the botanical and common name, and percentage by weight of each species and variety, and percentage of purity, germination and weed seed. Include the year of production and date of packaging. Certify that seed has been stored in compliance with all recommendations of the seed supplier.
      b. Certificates of inspection as may be required by governmental authorities to accompany shipments, and manufacturer's certified analysis for soil amendments and fertilizer materials. For standard products submit other data substantiating that materials comply with specified requirements.
   2. Test Reports: Submit the following:
      a. Soil analysis reports for existing soil and imported manufactured topsoil, as specified. Include recommendations for remediating existing soil into acceptable topsoil.
   3. Qualifications Data: Submit qualifications data for the following:
      a. Landscape installer.
      b. Landscape supervisor.
      c. Testing agency.
   4. Source Quality Control Submittals
      a. Written statement providing the location from which manufactured topsoil is to be obtained and the names and addresses of the suppliers.

C. Closeout Submittals: Submit the following:
   1. Operations and Maintenance Data:
      a. Submit recommended procedures to be established by DEPARTMENT for the maintenance of lawns and meadows for one full year. Submit prior to expiration of required maintenance period.
   2. Warranty Documentation:
      a. Submit written warranty, signed by CONTRACTOR and landscape installer, as specified.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery of Materials:
   1. Do not deliver seed, sprigs, plugs or sod until Site conditions are ready for installation.
   2. Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery.
   3. Deliver seed in undamaged, original containers, sealed by the supplier and indicating compliance with approved Shop Drawings.

B. Storage of Materials:
   1. Store and cover materials to prevent deterioration. Remove packaged materials that become wet or show deterioration or water marks from the Site.
   2. Seed that becomes wet, moldy or damaged during the time of storage on-Site or that has been damaged during transit is not acceptable.

1.7 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Proceed with and complete lawn and meadow planting as rapidly as portions of the Site become available, working within the seasonal limitations for each type of lawn, grass and wildflower planting required.
   2. Proceed with planting only when current and forecasted weather conditions are favorable to successful planting and establishment of lawns and meadows.
      a. Do not spread seed when wind velocity exceeds five miles per hour.
      b. Do not plant when drought, or excessive moisture, or other unsatisfactory conditions prevail.
   3. Herbicides, chemicals and insecticides shall not be used on areas bordering wetlands.

B. Scheduling:
   1. Coordinate planting with specified extended service periods to provide required service from date of Substantial Completion. Plant during one of the following periods:
      a. Spring Planting: March 15 to June 1.
      b. Fall Planting: September 1 to October 30.
   2. Do not begin lawn and meadow planting until water, acceptable for use and adequate in supply, is available on-Site and can be successfully transported to the areas of Work. Coordinate provision of adequate and acceptable water supply with Project Schedule.
   3. Do not proceed with installation of loam until all subgrade utility services have been installed, are operating successfully and have been approved by ENGINEER.

1.8 WARRANTY

A. General Warranty: The special warranties specified in this Article shall not deprive the DEPARTMENT of other rights or remedies the DEPARTMENT may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by CONTRACTOR under the Contract Documents.

B. Special Warranties: Warranty lawns and meadows through the specified extended service period.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil:

1. All soil accepted as topsoil, whether obtained from on-Site or off-Site sources, shall comply with specified topsoil analysis.
2. Provide fertile, friable, natural loam, surface soil, capable of sustaining vigorous plant growth; free of any admixture of subsoil, clods of hard earth, plants or roots, sticks, stones larger than 1-inch in diameter, or other extraneous material harmful to plant growth, in compliance with ASTM D 5268. Provide topsoil with the following analysis:
   a. 3/4-inch mesh: 100 percent passing.
   b. No. 4-sieve: 90 to 100 percent passing.
   c. No. 200-sieve: 0 to 10 percent passing.
   d. Clay content of material passing No. 200-sieve not greater than 60 percent, as determined by hydrometer tests.
   e. pH-adjusted with ferrous sulphate or ground limestone to provide pH 5.5 to pH 7.0 at time of installation of lawns, grass and meadow areas, unless particular species of grass or wildflower stand requires a different pH to meet its growing needs.
   f. Electrical conductivity of a 1:2 soil-water suspension shall not exceed 1.0 milliohm per centimeter and with less than 200 parts per million of extractable aluminum.
   g. Cation Exchange Capacity: 5, minimum.
   h. Organic content not less than five percent, as determined by ignition loss of oven-dried samples passing No. 10-sieve (Muffle Furnace Temperature: 110 plus or minus five degrees C for eight hours).
   i. Free of pests and pest larvae.
3. Topsoil Source: The topsoil source shall be obtained from the Canal Corp. Upland Disposal Site (UDS) 4-26. This material may require addition of amendments to meet the requirements of this specification. UDS soils stockpiled on-Site can be used as topsoils if amended to meet the requirement in this specification. Verify suitability of stockpiled UDS material to produce topsoil, as specified. Clean UDS material of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
   a. Supplement acceptable On-Site staged USD material with amended topsoil from the UDS 4-26 area, when quantities of UDS material available On-Site are insufficient to complete the Work.

B. Meadow Grass Seed:

1. Tall Grassy Meadow with Minor Forbs: Provide a mixture of fresh, clean, new-crop seed complying with the tolerance for purity and germination established by AOSA. Provide seed of each species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed specified.

2. Seed Species: Seed of grass and forb species as follows, with not less than 95 percent germination, not less than 80 percent pure seed, and not more than 0.25 percent weed seed by weight:
    a. Full Sun: Proportioned by weight as follows:
        1) Twenty five percent Prairie Dropseed (*Sporobolus heterolepis*).

2) Twenty five percent Little Blusestem (*Schizachyrium scoparium*).
3) Twelve percent Ticklegrass (*Agrostis hyemalis*).
4) Ten percent Creeping Red Fescue* (*Festuca rubra*).
5) Eight percent Side-Oats Grama (*Bouteloua curtipendula*).
6) Six percent Lanceleaf Coreopsis* (*Coreopsis lanceolata*).
7) Four percent Old Field Goldenrod (*Solidago nemoralis*).
8) Three percent Black-Eyed Susan* (*Rudbeckia hirta*).
9) Two percent Grass-Leaved Goldenrod (*Euthamia graminifolia*).
10) Two percent Red Clover* (*Trifolium pratense*).
11) Two percent Partridge Pea (*Chamaecrista fasciculata*)
12) One percent Butterfly Milkweed (*Asclepias tuberosa*)

*non-native in New York, but naturalized

C. Inorganic Soil Amendments:
   1. Limestone: ASTM C 602, agricultural limestone containing a minimum 80 percent carbonate equivalent and as follows:
      a. Class: Class T, with a minimum 99 percent passing through No. 8-sieve and a minimum 75 percent passing through No. 60-sieve.
   2. Iron Sulfate: Commercial-grade acidulant, recommended for use on acid-loving plants. Provide granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
   3. Perlite: Agricultural-grade, expanded pumice.
   4. Agricultural Gypsum: Commercial-grade and finely ground, containing a minimum of 90 percent calcium sulfate.
   5. Grit Aggregate: Commercial-grade filter sand consisting of hard, durable rounded grains of quartz or other rock that do not compact to a solid mass when wet, with a pH in the range required for topsoil. Provide clean, washed, natural or manufactured aggregate, free of toxic materials, salt and other chemical contamination.
   6. Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
   7. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

D. Organic Soil Amendments:
   1. Compost: Well-composted, stable, weed-free organic matter, produced by the aerobic decomposition of organic residues; pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through a 1-inch screen; soluble salt content of 5 to 10 decisiemens/meter; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
      a. Organic Matter Content: 50 to 60 percent of dry weight.
      b. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
   2. Peat: Partially decomposed stems and leaves of several species of sphagnum moss; finely divided or granular texture. Supply shredded material, free

from lumps, wood, roots, stones, decomposed collodial residue and other extraneous foreign matter, capable of passing through a 1/2-inch screen, which can easily be incorporated with the soil. Supply material, which has been conditioned in storage piles after excavation for at least six months, including one freezing and thawing period. Supply peat humus with the following analysis:

a. Not less than 90 percent organic matter by weight on an ovendry basis.
b. pH range of 3.4 to 4.8.
c. Moisture content 35 percent at time of incorporation into soil.
d. Water absorbing ability 150 percent to 350 percent by weight.

3. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.
4. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

E. Fertilizers:
1. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of four percent nitrogen and 20 percent phosphoric acid.
2. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
3. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
    a. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports.
4. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
    a. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

F. Mulches:
1. Straw Mulch: Provide air-dry, clean, mildew- and certified seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
2. Peat Mulch: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.
3. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch screen; soluble salt content of 5 to 10 decisiemens/meter; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
    a. Organic Matter Content: 50 to 60 percent of dry weight.
    b. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.

4. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
5. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
6. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

G. Erosion-Control Materials:
1. Erosion-Control Blankets: 100 percent biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended 6-inches long steel wire staples.
2. Erosion-Control Fiber Mesh: Biodegradable twisted jute or spun-coir mesh, a minimum of 0.92 pounds per cubic yard, with 50 to 65 percent open area. Include manufacturer's recommended 6-inches long steel wire staples.

H. Accessories:
1. Provide herbicides, chemicals and insecticides as needed for disease, fungus or pest control. All herbicides, chemicals and insecticides shall be bear approval labels indicating they are approved by the United States Department of Agriculture for the intended uses and application rates.

2.2 LOAM MIXES

A. Follow recommendations of soil-testing laboratory for modifying on-Site soil and manufactured soil, for use as topsoil.

B. On-Site soil and manufactured soil that has been provided with all inorganic soil amendments and fertilizers recommended by soil-testing laboratory, and acceptable for use as topsoil, shall be mixed with an additional organic soil amendment mix in a ratio of two parts topsoil to one part organic soil amendment mix, by volume.
1. Prepare soil amendment mix by combining 40 percent compost, 40 percent peat moss, ten percent wood derivatives, five percent well-rotted manure and five percent grit aggregate, by volume.

C. Loam: Thoroughly blend topsoil with organic soil amendment mix and use as planting media for all lawn and meadow Work.

PART 3 - EXECUTION

3.1 INSPECTION

A. CONTRACTOR shall examine the areas and conditions under which lawn and meadow Work is to be performed, and notify ENGINEER, in writing, of conditions detrimental to the proper and timely completion of the Work. Do not

proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 PREPARATION

A. Thoroughly blend and mix loam before spreading. Incorporate fertilizers, and ground limestone or acidulant, after spreading, as specified, and at rates recommended by soil-testing laboratory.

B. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
   1. Protect adjacent and adjoining areas from hydroseeding overspray.

C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

D. Perform percolation tests on existing subgrade and placed fills prior to fine grading.
   1. Perform percolation testing of subgrades and placed fills to determine whether or not the subgrade will drain properly. Perform percolation tests in accordance with the following procedure:
      a. Dig a hole in the subgrade that is 4-inches in diameter and 12-inches deep.
      b. Fill the hole with water and wait for the water to completely drain from the hole.
      c. Immediately refill the hole with water and measure the rate of fall in the water level.
   2. In the event that water drains at a rate less than 1-inch in one hour, excavate soil to a minimum depth of 24-inches, and deeper, as necessary to break the compaction. Backfill, recompact and retest each area so prepared to confirm drainage rates exceed one inch in one hour.
   3. Perform minimum of one soil percolation test for every 10,000 square feet of lawn and meadow area.

E. Excavate or fill subgrade, as required, to bring subgrade to elevations shown. Maintain all angles of repose. Confirm that subgrade is at proper elevations and that no further earthwork is required to bring the subgrade to proper elevations. Provide subgrade elevations that slope parallel to finished grade and towards subsurface drains shown.

F. Remove all construction debris, trash, rubble and all extraneous materials from subgrade. In the event that fuels, oils, concrete washout or other material harmful to plant growth or germination have been spilled into the subgrade, excavate the subgrade sufficiently to remove all such harmful materials and fill with approved fill, compacted to the required subgrade compaction level.

3.3 FINE GRADING

A. Immediately prior to dumping and spreading loam, clean subgrade of all stones greater than 2-inches and all other extraneous matter. Remove all such material from Site. Notify ENGINEER that subgrade has been cleaned, and obtain approval prior to spreading loam.

B. Do not attempt to spread excessively wet, muddy or frozen loam. Do not spread loam more than five days before seeding or planting.

C. Spread loam to a depth of 6-inches but not less than required to meet finish grades after light rolling and natural settlement.
   1. Spread approximately one-half the thickness of required loam depth. After spreading loam, rototill, disk or harrow loam and subgrade to bring top 2-inches of subgrade upward into loam layer, so that there is a transitional layer between loam and subgrade.
   2. Spread remainder of loam to required finish grades.
   3. Compact each lift sufficiently to reduce settling, but not enough to prevent the movement of water and feeder roots through loam. After compaction spread loam should offer firm, even resistance when a soil sampling tube is inserted.
   4. Phase the placement of the final lift so that wheeled vehicles do not have to travel over areas where final lifts are already in-place.
   5. Spread and compact to a smooth, uniform surface plane, to within plus or minus 1/2-inch of finish elevations. Roll and rake and remove all ridges, and fill depressions, as required. Remove all stones larger than 1-inch in any dimension and all sticks, roots, trash and other extraneous matter.
   6. Perform percolation tests as for subgrades, except limit depth of holes to 2/3 the depth of loam layer.

D. Spread ground limestone or acidulant and fertilizer, as specified. Mix ground limestone with dry loam before spreading fertilizer and work lightly into the top 4-inches of loam by harrowing or tilling at least three days before applying commercial fertilizers.

E. Grade planting areas to smooth, even surface with loose, uniformly fine texture. Remove all stones and extraneous material in excess of 1-inch diameter. Roll, rake and remove ridges and fill depressions, as required to meet finish grades.

F. Moisten prepared areas before seeding, sodding, sprigging or plugging. Water thoroughly and allow surface moisture to dry before planting. Do not create a muddy loam condition.

G. Prior to seeding or planting, restore loam to specified condition, if eroded or otherwise disturbed.

3.4 CONVENTIONAL SEEDING

A. General: Maintain grade stakes until removal is mutually agreed upon by all parties concerned.

B. Rake or harrow all seedbeds immediately prior to seeding to produce a rough, grooved surface, no deeper than 1-inch. Seed only when seedbed is in a friable condition and not muddy or hard.

C. Sow seed using a spreader or seeding machine.

D. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.

E. Sow wildflower meadow with minor grasses seed mixture at the rate of not less than 40-pounds per acre and include a cover crop of oats (*Avena sativa*) at a rate of 20-pounds per acre.

F. Cultipacker, or approved similar equipment, may be used to cover the seed and to firm the seedbed in one operation. In areas inaccessible to cultipacker:
   1. Rake the seed lightly into top 1/8-inch of loam, roll in two directions with a water ballast roller, weighing not less than 100 pounds per linear foot.
   2. Take care during raking that seed is not raked from one spot to another.
   3. Protect seeded areas against erosion by spreading specified mulch after completion of seeding operations.
      a. Protect seeded areas against hot, dry weather or drying winds by applying peat moss mulch not more than 24 hours after completion of seeding operations. Presoak and scatter evenly to a depth of from 1/8-inch to 3/16-inches thick and roll to a smooth surface. Do not mound.
      b. Spread straw mulch to form a continuous loose blanket not less than 1-1/2-inch deep over seeded areas at the approximately rate of two tons-per acre.
         1) Anchor mulch by spraying with asphalt emulsion at the rate of ten to 13-gallons per 1000 square feet.
         2) Place mulch with equipment that will blow or eject, by means of a constant air stream, controlled quantities of the mulch and asphalt in a uniform pattern over the specified area. If the mulch is excessively cut or broken, take measures to reduce the cutting or breakage. Introduce the asphalt into the air stream by means of a spray arranged so that it will partially coat the mulch with a spotty asphalt tack prior to the depositing of the mulch covering. Rate of application not less than 75-gallons per ton of mulch.
      c. Protect seeded areas, with slopes exceeding one on six, by providing erosion-control fiber mesh and where slopes exceed one on four, by providing erosion-control blankets. Install erosion-control materials according to manufacturer's written instructions and as follows:
         1) Vertically down slope without stretching fabric.

2) Install hold down staples three per square yard minimum in center of fabric or as required to hold and shape the fabric to the contours of the slope. Install hold down staples along edges and overlaps of fabric at 9 inches on centers minimum, or as required to hold and shape the fabric to the contours of the slope.
3) Lap fabric 4-inches minimum and turn edges of fabric into 8-inch deep by 16-inch wide earth trench and fill trench with earth.

G. Using a uniform fine spray, thoroughly and evenly water seeded areas. Provide adequate water to moisten seedbed to a depth of 2-inches.
   1. Repeat this process when peat mulch color lightens. Maintain all seedbeds in a uniformly moist condition, conducive to seed germination and plant establishment, as specified.

H. Reseed areas that remain without mulch for longer than three days.

I. Take precautions to prevent damage or staining of construction or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.

J. Prevent foot or vehicular traffic, or the movement of equipment, over the mulched areas. Reseed areas damaged as a result of such activity.

3.5 HYDROSEEDING

A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.

B. Mix slurry with asphalt-emulsion tackifier.

C. Apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry application at a minimum rate of 500-pounds per acre dry weight, but not less than the rate required to obtain specified seed-sowing rate so that the seed comes into direct contact with loam.

D. Apply slurry cover coat of fiber mulch at a rate of 1000-pounds per acre.

3.6 RECONDITIONING EXISTING LAWNS AND MEADOWS

A. Recondition existing lawn and meadow damaged by CONTRACTOR'S operations, including areas used for storage of materials or equipment and areas damaged by movement of vehicles. Recondition existing lawns and meadow areas where minor regrading is required.

B. Recondition other existing lawn and meadow areas shown.

C. Provide fertilizer, seed or sod and soil amendments, as specified for new lawn and meadow, and as required to provide satisfactorily reconditioned lawns and meadows. Provide new loam as required to fill low spots and meet new finish grades.

D. Till stripped, bare, and compacted areas thoroughly to a depth of 12-inches.

E. Remove diseased or unsatisfactory lawn and meadow areas; do not bury into soil. Remove topsoil containing extraneous materials resulting from CONTRACTOR'S operations including oil drippings, stone, gravel and other construction materials.

F. In areas approved by ENGINEER, where substantial lawns and meadows remain (but are thin), mow, dethatch, core aerate and rake. Fill low spots, remove humps, cultivate soil, fertilize, and seed. Remove weeds before seeding or if extensive, apply selective chemical weed killers, as required. Apply a seedbed mulch, if required, to maintain moist condition.

G. Water newly planted areas and keep moist until new lawns and meadows are established, as specified.

3.7 ACCEPTANCE CRITERIA FOR LAWNS AND MEADOWS

A. Lawn and meadow Work will be considered acceptable when:
   1. Seeded Meadow: When a healthy, uniform, close stand of meadow grass and forbs has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 20 square feet and bare spots not exceeding 12-inches by 12-inches.

3.8 CLEANUP AND PROTECTION

A. Promptly remove soil and debris, created by lawn and meadow Work, from paved areas. Clean wheels of vehicles before leaving Site to avoid tracking soil and loam onto roads, walks, or other paved areas.

B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout extended service period and remove when service period ends. Treat, repair or replace damaged lawns and meadows.

C. Remove erosion-control measures after lawn and meadow extended service period ends.

D. Take all precautions to ensure that hydroseed slurry is only placed on the areas designated. Completely clean any overspray, on areas not designated to receive slurry.

3.9 INSPECTION AND ACCEPTANCE

A. Where lawns and meadows do not comply with specified acceptance criteria, reestablish lawns and meadows and continue extended service period until lawns and meadows comply with criteria for acceptance.

3.10 DEMONSTRATION

A. Engage installer's Site supervisor to train and instruct DEPARTMENT'S personnel in the proper maintenance of lawns and meadows and procedures to be performed throughout the year for proper care and maintenance of lawn and meadows.
   1. Include instructions and training on reconditioning established lawns and meadow and sources of lawn and meadow materials.
   2. Schedule training with the DEPARTMENT, through ENGINEER, with at least seven days' advance notice.

B. Review Operation and Maintenance information and be sure all instructions are clearly understood by the DEPARTMENT'S personnel and are supplemented with additional information, clarifications and instructions, as required.

C. Provide minimum of two, nonconsecutive, full days on-Site training time during day shift normal working hours.

+ + END OF SECTION + +

SECTION 33 05 13.13

MANHOLE GRADE ADJUSTMENT

PART 1 GENERAL

1.1 SUMMARY

A. This section includes Lowering, Raising and Replacing of manhole frames and covers as shown or as specified within the Contract Documents

1.2 SUBMITTALS

A. Product Data: Manufacturer information for manhole covers and riser rings construction, features, configuration, and dimensions.

B. The Contractor shall submit a detailed sketch of the existing conditions of the manhole and the proposed methods for raising or lowering the manhole.

C. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store materials according to manufacturer instructions.

B. Protection:
   1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
   2. Provide additional protection according to manufacturer instructions.

1.4 FIELD CONDITIONS

A. The Contractor shall field verify the existing conditions of all manholes to be raised or lowered

PART 2 PRODUCTS

2.1 MATERIALS

A. Manhole Casting/Standard Ring and Cover

B. Manhole Casting Adjustment Rings

C. Concrete/Non-Shrink Grout, Type S Mortar

2.2 RISER RINGS

A. Clay Brick Units:
   1. Description:
      a. Solid units.
      b. Comply with ASTM C32 or AASHTO M91.

B. Precast circular concrete or HDPE riser rings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify and locate manholes requiring grade adjustment.

3.2 INSTALLATION

A. Lowering Manhole Frames and Covers

   1. Where lowering of an existing manhole is required, the Contractor shall remove the frame, cover and any bricks, blocks or rings necessary to lower the manhole to a level where there is no danger of the manhole being damaged during excavation, compaction or grading operations.

   2. An approved steel cover shall be placed over the manhole until the manhole can be raised to its final elevation.

B. Raising Manhole Frames and Covers:
   1. Locate and raise manholes to grade as specified.
      1) Do not adjust elevation greater than 18 inches without addition of a new manhole section.
      2) Use no more than four courses of brick 12 inches.
      3) A combination of brick courses and precast concrete or HDPE riser rings (18 inches max.) may be used to achieve indicated elevation for frame and cover.
      4) Butyl sealant shall be installed between each precast concrete grade ring and the interior and exterior shall be parged using non-shrink grout as an additional measure to resist infiltration/exfiltration.
      5) HDPE riser rings shall be sealed in accordance with the Manufacturers recommendations.

C. Replacing Manhole Frames and Covers (if damaged):
   1. Identify manholes for replacement of frames and covers.
   2. Install new frames and covers (in kind).
   3. Adjust new frames and covers to match finished grade as indicated.
   4. Seal joints between manholes and manhole frames.

END OF SECTION

SECTION 33 11 53

MONITORING WELL INSTALLATION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope
   1. CONTRACTOR shall provide all installation labor, materials, utilities, transportation, tools, supplies, equipment, and appurtenances required to complete the installation of seven (7) wells as shown and specified herein, including but not limited to the following:
      a. Well installation and development as specified
      b. Well Casings
      c. Well Screens
      d. J-plug caps for well casing
      e. Steel protective casings with locking covers
      f. Keyed-alike locks

B. Permits
   1. CONTRACTOR shall obtain all permits from authorities having jurisdiction prior to commencement of the Work.

1.2 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS

A. The latest revision of publications listed below form a part of the specification to the extent referenced. The publications are referred to in the text by basis designation only. American Society of Testing and Materials (ASTM).
   a. ASTM Plastic Pipe Standards, F422-77 and D 1785
   b. ASTM PVC Compounds Standards D 1785
   c. U.S. Department of Commerce Product Standard. PS 21-70
   d. ASTM D5092 Standard Practice for Design and Installation of Groundwater Monitoring Wells
   e. NYS Environmental Conservation Law, Part 15
   f. ASTM D6151 – Standard Practice for Using Hollow Stem Augers for Geotechnical Exploration and Soil Sampling.

1.3 REFERENCES

A. Standards referenced in this Section are listed below:
   1. American Welding Society, (AWS).
   2. New York State Department of Environmental Conservation, (NYSDEC).

1.4 QUALITY ASSURANCE

A. The Work shall comply with the Rules and Regulations as defined under the applicable requirements of governing authorities having jurisdiction, including but not limited to, the New York State Department of Environmental Conservation.

B. The well driller shall be a licensed well driller in the State of New York.

C. Records: The records and logs, shall be reviewed to ensure the quality of the well prior to acceptance of the Work by the ENGINEER.

D. The ENGINEER shall observe the installation of the wells. CONTRACTOR shall cooperate with the ENGINEER in this observation, which shall include, but not be limited to, observing drilling operations and reviewing the daily drillers report.

E. Welding performed shall be high quality and per American Welding Society Standards.

F. Products used in the Work, specified under this specification, shall be produced by manufacturers regularly engaged in the production of such items that have a successful history of product acceptability, as interpreted by the ENGINEER.

1.5 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings: Submit the following for ENGINEER'S approval in accordance with the applicable provisions of the Contract Documents prior to well installation operations:
      a. Monitoring well drawings shall indicate details of fabrication and installation.
      b. Survey documentation location and elevations
      c. Method of casing installation.

B. Informational Submittals: Submit the following:
   1. A Daily Driller's Report shall be kept at the Site for review by the ENGINEER, and at the conclusion of well installation, two neat, legible copies of the reports shall be submitted to the ENGINEER. The report shall contain, but not be limited to, the following information for each day's activity:
      a. The reference point for all depth measurements
      b. The depth of each well
      c. Number of crew on the Site and name of superintendent for each shift.
      d. Description of equipment on-site and equipment used.
      e. Number of hours on the job.
      f. Number of hours of installation operations.
      g. Number of hours of shutdown

h Description of drilling and well installation activities conducted, including amounts of material used and chronological log of activities.
i. Emergency phone numbers of personnel involved in well installation.

2. Within seven days after completion of installation, submit two copies of complete and accurate Daily Driller's Reports to the ENGINEER.
3. If CONTRACTOR requests changes to these Specifications, CONTRACTOR shall submit in writing the requested changes to the ENGINEER prior to implementation of the change. ENGINEER will review the request and notify CONTRACTOR in writing of his decision.
4. Within thirty days of well installation, the well installation completion report shall be submitted by CONTRACTOR to the authority having jurisdiction and the ENGINEER.

PART 2 – PRODUCTS

2.1 WELLS

A. All of the specified wells shall be a minimum of 2-inches in diameter. Each well shall consist of a PVC well casing and up to 15-feet of well screen.

B. The wells will be constructed so that the base of the well is approximately 10-feet below the water table or to the top of the silty clay unit whichever is shallower.

C. The well screen shall extend approximately 5-feet above the top of the water table but not less than 3-feet below the ground surface.

2.2 WELL INSTALLATION

A. The borehole for the well installation shall be completed using hollow stem augers with a minimum inside diameter of 4.25 inches. Soil samples shall be collected continuously to the base of the hole using standard split barrel sampling method in accordance with ASTM D1586. The borehole shall be completed to 10 ft below the water table or to the top of the silty clay unit whichever is shallower.

B. The wells will be constructed of 2-inch diameter, schedule 40, flush threaded PVC casing and screen. The screen shall have a 10-slot size and be fitted with a cap at the base. The screen length will be up to 15 ft in length and set so that the top of the screen extends 3 to 5 ft above the water table and a minimum of 3 ft below the ground surface. Should the water table occur at less than 8 ft below grade, the screen length shall be adjusted to ensure that the top of the screen is at least 3 ft below grade.

The screen and riser casing shall be placed at the base of the borehole making sure that the well is plumb. A j-plug shall be placed into the top of the PVC at completion of the installation.

C. The filter pack compatible with a 10-slot well screen shall extend to 1 to 2-ft above the top of the well screen. Filter pack shall be placed in increments and with measurements between increments to confirm that the material has settled in place and not bridged within the annulus.

The augers should be withdrawn in small increments during the placement of the filter pack and seal. To further limit the potential for bridging, the lowest point of casing or auger should be maintained at or above the in-place filter pack material or seal, and no more than 1 ft higher than the top of filter pack material or seal to limit the potential for borehole collapse.

D. A 2 ft seal composed of bentonite pellets, granular bentonite, or bentonite slurry should be tremied into the annular space above the filter pack. If bridging in the tremie pipe occurs with the solid bentonite products, the pellets may be allowed to free fall. If the bentonite is in pellet or granular form and is placed above the water table, potable water should be used to hydrate the material prior to placing the grout. Sufficient water shall be used to saturate the material.

A bentonite cement grout shall be used to fill the remaining annulus to the ground surface. The grout should be prepared consistent with ASTM Method D5092 such that approximately 3 to 5 pounds of bentonite will be mixed with 6½ to 7 gallons of water per 94-pound sack of Type I or Type II Portland cement and tremied in lifts from the top of the bentonite seal upward to the within 2 ft of the surface. The remainder of the annulus will be filled with concrete to anchor the protective casing and associated concrete pad.

E. Install a minimum 4-inch diameter, steel protective casing with a locking cap. The protective casing should extend between 2.5 and 3.5 ft above grade and be installed and extend down to below the frost line. A weep hole should be drilled into the lower part of the protective casing for drainage. The casing shall be set into the borehole and cemented in placed to form a concrete pad that extends at least 1 ft in all direction and is a minimum of 18 inches thick. The surface of the concrete shall slope away from the casing in all directions.

Well identification should be clearly visible and placed on the inside and outside of the lid of the protective casing.

2.3 WELL DEVELOPMENT

A. The wells will be developed no earlier than 24 hours after installation. The goal of development is to remove fines and enhance connections between the well and the surrounding formation. Well development shall be completed using an inertial pump (Waterrra® or similar) fitted with a surge block or bailer. The inertial pump or bailer shall be raised and lowered through the water column to disturb and

suspend sediment so that it can be removed with the water working from the top down in 2 to 3 ft intervals using the following process.

1. Collect and record initial measurements of turbidity, pH, temperature, and conductivity.
2. Surge the well interval with the bailer or pump to agitate the water column.
3. Remove water containing suspended sediment until it visibly reduces.
4. Collect and record measurements of turbidity, pH, temperature, and conductivity.

Repeat the process over the lower sections until the base of the well is reached. Continue development from top to bottom at the top until the water quality parameters are stable (as listed below) for three consecutive recording intervals or until 5 well volumes have been removed:

1. Temperature (±10%);
2. pH (±10%);
3. Specific Conductivity (±10%);
4. Turbidity (±10%);

Record the final characteristic of the discharge water (i.e. color, odor), total volume purged, and well depth.

PART 3 – EXECUTION

3.1 GENERAL

A. No monitoring well installation activities shall commence without acceptance of the ENGINEER. The CONTRACTOR shall provide a schedule on when the monitoring well installation will begin so that Engineering oversite can be provided by the ENGINEER.

B. Water generated and/or encountered during well installation activities shall be handled in accordance with the Section "Construction Water Management."

C. All soil cuttings generated from monitoring well installation shall be placed beneath the limits of the ET Cover system.

D. The CONTRACTOR shall restore the area in the vicinity of each well location as to its original state.

E. Following drilling activities, the CONTRACTOR shall decontaminate equipment as specified in Section 3.3.

3.2 SURVEY

A. All survey of the monitoring well shall be completed in accordance with Section 02 21 13 Survey Specification. The CONTRACTOR shall engage a NYS-Licensed surveyor to survey the location and elevation of each newly installed well. Survey shall determine the following:
   1. Horizontal location
   2. Ground surface elevation.
   3. Top of protective casing
   4. Top of PVC elevation for each of the wells

B. Ground Surface Elevation Accuracy and Datum Requirements shall be as follows:
   1. Horizontal Datum – NAD83 New York State Planes, Central Zone, US Foot2. Vertical Datum – NAVD88
   3. Accuracy (±0.01feet);

3.3 EQUIPMENT DECONTAMINATION REQUIREMENTS

A. To avoid cross-contamination, equipment shall be decontaminated after operations at each well location are complete.

B. The drilling and excavation equipment (i.e., drill rigs, cutting bits, and associated equipment) shall be cleaned at a designated constructed decontamination area.

C. The drilling and excavation equipment shall be prepared before it is brought to the decontamination facility and then cleaned at the facility. Preparation includes removing gross soil/rock from the equipment to minimize losses during movement to the decontamination area. At the decontamination area, the equipment shall be steam cleaned or washed using phosphate-free detergent then rinsed. The equipment shall be inspected by the ENGINEER'S field representative after cleaning.

D. All solid waste materials generated during the well installation process shall be disposed of properly.

+ + END OF SECTION + +

SECTION 33 29 00

MONITORING WELL ABANDONMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. The Contractor shall provide all labor, materials, utilities, transportation, tools, supplies, equipment, and appurtenances required to complete the abandonment of wells as shown and specified.

   2. The Work includes the abandonment of the following monitoring wells:

	Monitoring Well Identification – Wells to be Abandoned		
Monitoring Well	Well Dia. (inches)	Material of Construction	Approx. Depth (Feet)
CHA-1(S)	2	PVC	18
CHA-3(S)	2	PVC	25
CHA-4(S)	2	PVC	19
CHA-5(S)	2	PVC	15
CHA-6(S)	2	PVC	14
CHA-9(S)	2	PVC	17.5
MW-4	2	PVC	24
MW-TP-01	2	PVC	17.5
MW-TP-02	2	PVC	15.5
MW-TP-04	2	PVC	15.5
MW-TP-05	2	PVC	13.5
MW-TP-06	2	PVC	15.5
MW-TP-07	2	PVC	14
MW-TP-08	2	PVC	10.5
UD-3	2	PVC	20

B. Existing conditions:
   1. Refer to the Contract Drawings for location of existing monitoring wells.

C. Permits:
   1. CONTRACTOR shall obtain permits from authorities having jurisdiction prior to commencement of the Work.

1.2 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS

The publications listed below form a part of the specifications to the extent referenced. The publications are referred to in the text by basis designation only.

1. American Society of Testing and Materials (ASTM)

   ASTM C150 Type 1 Portland cement.

   ASTM D5299 Decommissioning of Groundwater Wells, Vadose Zone Monitoring Devices, Boreholes, and other Devices for Environmental Activities

2. New York State Department of Environmental Conservation (NYSDEC)

   NYSDEC CP-43 Groundwater Monitoring Well Decommissioning Policy (November 3, 2009), or more recent version if available

1.3 QUALITY ASSURANCE

A. The Work shall comply with the Rules and Regulations as defined under the applicable requirements of governing authorities having jurisdiction, including but not limited to, the New York State Department of Environmental Conservation.

B. The well driller shall be a licensed well driller in the State of New York.

C. Records: The records and logs described in Article 1.4, below, shall be reviewed to ensure the quality of the well abandonment prior to acceptance of the Work by the ENGINEER.

D. The ENGINEER shall observe the abandonment of the well. CONTRACTOR shall cooperate with the ENGINEER in this observation, which shall include, but not be limited to, observing abandonment operations and reviewing the daily drillers report.

E. Products used in the Work, specified under this specification, shall be produced by manufacturers regularly engaged in the production of such items that have a successful history of product acceptability, as interpreted by the ENGINEER. Equipment or materials of less quality or of inferior design to that specified will not be accepted.

1.4 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings: Submit the following prior to well abandonment operations:

a. Cement grout mix design.
b. Backfill material design and calculated required volume.
c. Method of casing removal.
d. Method of surface seal grout and material placement.
e. Method of backfill grout and material and material placement.
f. Means of breaking up and disposal of materials of the abandon well materials on-site under the ET Cover system.

B. Informational Submittals: Submit the following:

1. A Daily Driller's Report shall be kept at the Site for review by the ENGINEER, and at the conclusion of well abandonment, two neat, legible copies of the reports shall be submitted to the ENGINEER. The report shall contain, but not be limited to, the following information for each day's activity:
   a. Number of crew on the Site and name of superintendent for each shift.
   b. Description of equipment on-site and equipment used.
   c. Number of hours on the job.
   d. Number of hours of abandonment operations.
   e. Number of hours of shutdown
   f. Description of abandonment activities conducted, including amounts of material used and chronological log of activities.
   g. Emergency phone numbers of personnel involved in well abandonment.
2. Within seven days after completion of abandonment, submit two copies of complete and accurate Daily Driller's Reports to the ENGINEER.
3. If CONTRACTOR requests changes to these Specifications, CONTRACTOR shall submit in writing the requested changes to the ENGINEER prior to implementation of the change. ENGINEER will review the request and notify CONTRACTOR in writing of his decision.
4. Within thirty days of well abandonment, the well abandonment completion report shall be submitted by CONTRACTOR to the authority having jurisdiction and the ENGINEER.

PART 2 - PRODUCTS

2.1 GROUT

A. There are two types of grout mixes that may be used to seal wells: a standard mix and a special mix. Both mixes use Type 1 Portland cement and four percent bentonite by weight. However, the special mix uses a smaller volume of water and is used in situations where excessive loss of the standard grout mix is possible (e.g. highly fractured bedrock or coarse gravels).

B. Standard Grout Mixture

1. Unless otherwise necessary, the following standard mixture shall be used:

    a. One 94-lb bag Type I Portland Cement
    b. 3.9 lbs powdered bentonite
    c. 7.8-gals potable water

2. This mixture results in a grout with a bentonite content of four percent by weight and shall be used in all cases except in boreholes where excessive use of grout is anticipated. In these cases, a special mixture shall be used.

C. Special Mixture

1. In cases where excessive use of grout is anticipated, such as high permeability formations and highly fractured or cavernous bedrock formations, the following special mixture shall be used:

    a. One 94-lb bag type I Portland Cement
    b. 3.9 lbs powdered bentonite
    c. 1 lb calcium chloride
    d. 6.0 to 7.8 gallons potable water (depending on desired thickness)

2. The special mixture results in a grout with a bentonite content of four percent by weight. It is thicker than the standard mixture because it contains less water. This grout is expected to set faster than the Standard Grout Mixture. The least amount of water that can be added for the mixture to be readily pumpable is six gallons per 94-lb bag of cement.

3. In cases where the penetration of the sandpack is critical, such as bedrock wells with screens that transect multiple water-bearing zones, the following alternate mixture shall be used:

    a. One 94-lb bag Type III Portland Cement
    b. 3.9 lbs powdered bentonite
    c. 7.8-gals potable water

2.2 BENTONITE

A. Baroid - Ben Seal

B. Equal

PART 3 - EXECUTION

3.1 GENERAL

A. No monitoring well abandonment, repair or replacement activities shall commence without acceptance of the ENGINEER.

B. All monitoring well abandonment shall be performed in accordance with the requirements of the NYSDEC CP-43 Groundwater Monitoring Well Decommissioning Policy (November 3, 2009), or more recent version if available

C. Water generated and/or encountered during well abandonment activities shall be handled in accordance with the Section "Construction Water Management."

D. Soil cuttings and well materials shall be placed beneath the limits of the ET Cover system.

E. The CONTRACTOR shall restore the area in the vicinity of each well location as directed by the ENGINEER.

F. Following drilling activities, the CONTRACTOR shall decontaminate equipment as specified in Section 3.3.

G. If the well to be abandoned is constructed within a bedrock formation, the screened or the open hole portion of the well shall be grouted to the top of the bedrock. Prior to initiating any grouting procedure, the depth of the well shall be measured to determine if any silt or debris infilling has plugged the well. If plugging has occurred, the well shall be flushed with an appropriately sized roller bit or drill rods to remove or suspend the obstruction in the water column. The borehole shall then be tremie grouted from the bottom of the well to the top of bedrock to insure a continuous grout column. Note that if the bedrock well is cased, the screen should be perforated to the top of the rock if the inside diameter of the casing is 4-inches or larger. Furthermore, if the screened interval transects multiple water bearing zones, the special grout mix discussed in Part 2 shall be used to ensure penetration of the sand pack. After the rock hole is grouted, the overburden portion of the well shall be decommissioned in accordance with the following sections.

3.2 ABANDONMENT

A. Removing the Protective Casing

1. Removal of the protective casing of a well must not interfere with or compromise the integrity of decommissioning activities performed at the well.

2. Prior to Sealing the Well Bore

    a. The protective casing must be removed unless the drilling tools have an inside diameter larger than the protective casing. An acceptable protective casing removal method involves breaking up the concrete seal surrounding the casing and jacking or hoisting the casing out of the ground. A check should be made during pulling to ensure that the inner well casing is not being hoisted with the protective casing. If this occurs, the well casing shall be cut off after the base of the protective casing is lifted above the land surface.

B. Overdrilling

1. An overdrilling method of well abandonment shall be used to prevent cross-contamination. The overdrilling method used shall:

    a. Follow the original well bore.
    b. Create a borehole of the same or greater diameter than the original boring.
    c. Removal of all the well construction materials.

2. Acceptable methods for overdrilling include the following:

    a. Using conventional augering (i.e., a hollow stem auger fitted with a plug). The plug cutter shall grind the well construction materials, which shall be brought to the well surface by the auger.

    b. Using a conventional cable tool rig to advance casing having a larger diameter than the original boring. The cable tool kit shall be advanced within the casing to grind the well construction materials and soils, which are periodically removed with large diameter bailer. This method is not applicable to bedrock wells.

    c. Using an over-reaming tool with a pilot bit nearly the same size as the inside diameter of the casing and a reaming bit slightly larger than the original borehole diameter. This method can be used for wells with steel casings. Using a hollow-stem auger with outward facing carbide cutting teeth having a diameter two to four inches larger than the casing.

Outward-facing cutting teeth should prevent severing the casing and drifting off center.

d. Using a hollow-stem auger with a steel guide pipe inside. The casing guides the cutter head and remains inside the auger. The guide pipe should be firmly attached to the inside of the casing by use of a packer or other type of expansion or friction device.

3. Prior to overdrilling, an expandable J-plug or other suitable well cap shall be used to prevent the introduction of soil or cuttings into the well, thereby ensuring a continuous grout column for wells that are grouted in place.

4. In all cases above, overdrilling shall advance through the original bore depth by a distance of 0.5 feet to ensure complete removal of the construction materials. When the overdrilling is complete, the casing and screen should be retrieved from the center of the auger (American Society for Testing and Materials, Standard D 5299), if one of the hollow stem auger methods described above is employed.

5. Subsequent to overdrilling at flush mount well locations where it may be impractical to remove well materials from inside the augers, a 1-2-foot-deep area shall be excavated by hand around the flush-mount well to facilitate a conventional well removal while tremie-grouting inside the well. Alternatively, the soil within the annular space may be removed by raising the augers to allow the soil to fall out and re-advance the augers to the original target depth. Grout shall then be tremied within the annular space between the augers and well casings. The grout level in the borehole shall be maintained as the drilling equipment and well materials are sequentially removed.

6. After overdrilling is completed, the borehole shall be grouted, and the upper five feet of borehole shall be restored.

Grout Placement

1. Grout shall be placed in the borehole from the bottom to the top using a tremie pipe of not less than 1-inch diameter. Grout shall then be pumped into the borehole until the grout appears at the land surface (when grouting open holes in bedrock, the grout level only needs to reach above the bedrock surface).

2. When the grout level stabilizes, casing or augers shall be removed from the hole. As each section is removed, grout shall be added to

keep the level between 0-feet and 5-feet below land surface. If the grout level drops below the land surface to an excessive degree, an alternate grouting method must be used.

3. Upon completion of grouting, the CONTRACTOR shall insure that the final grout level is approximately five feet below land surface. A ferrous metal marker shall be embedded in the top of the grout to indicate the location of the former monitoring well.

A. Backfilling

1. The uppermost five feet of the borehole at the land surface shall be filled with a material physically similar to the natural soils.

3.3 EQUIPMENT DECONTAMINATION REQUIREMENTS

A. To avoid cross-contamination, equipment shall be decontaminated after operations at each well location are complete.

B. The drilling and excavation equipment (i.e., drill rigs, cutting bits, and associated equipment) shall be cleaned at a constructed decontamination facility.

C. The drilling and excavation equipment shall be prepared before it is brought to the decontamination facility and then cleaned at the facility. Preparation includes removing gross soil/rock from the equipment to minimize losses during movement to the decon pad. At the decontamination facility, the equipment shall be steam cleaned or washed using phosphate-free detergent then rinsed. The equipment shall be inspected by the ENGINEER after cleaning.

D. All solid waste materials generated during the decommissioning process shall be disposed of under the ET Cover System.

+ + END OF SECTION + +

SECTION 33 31 73

SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the requirements for procurement, transportation, storage, handling, and installation of smooth interior corrugated polyethylene pipe (SICPP) as a storm drainage conduit.

B. The SICPP shall be installed to the prescribed lines and grades at the locations indicated on the Contract Drawings or as directed by the ENGINEER.

1.2 REFERENCES

A. The publication listed below, current as of the date of this solicitation, form a part of this specification to the extent referenced. The publication is referred to in the text by basic designation only.

1. ASTM International
    a. D-1248 - Standard Specification for Polyethylene Plastics Molding and Extrusion Materials
    b. D-2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications
    c. D-3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
    d. D-3350 - Standard Specification for Polyethylene Plastics Pipe and Fitting Materials
    e. F-405 - Standard Specification for Corrugated Polyethylene Tubing and Fittings
    f. F-667 - Standard Specification for Large Diameter Corrugated Polyethylene Tubing and Fittings
    g. F-810 - Standard Specification for Smooth wall Polyethylene Pipe for use in Drainage and Waste Disposal Absorption Fields
2. American Association of State Highway and Transportation Officials (AASHTO)
    a. M-252 - Specification for Corrugated Polyethylene Drainage Tubing
    b. M-294 - Standard Specification for Corrugated Polyethylene Pipe, (300-1200mm)
    c. MP7 - Standard Specification for Corrugated Polyethylene Pipe, (1350 and 1500mm)

1.3 SUBMITTALS

A. CONTRACTOR'S certification that all products, materials, construction, and installation comply with the applicable requirements of the referenced standards, this specification, and the Contract Drawings.
B. A list of minimum property values for the pipe and fittings.
C. Manufacturer's product literature including, but not limited to, parts lists, materials of construction, operations & maintenance requirements, specifications, drawings, and installation guidelines, which demonstrate compliance with this specification.

1.4 QUALITY ASSURANCE

A. Pipe shall be marked with the manufacturer's name, product identification, lot number, pipe size, and pipe length.

1.5 STORAGE AND PROTECTION

A. Transportation is the responsibility of the CONTRACTOR who shall be liable for all damages prior to and during transportation to the site.
B. Handling, storage, and care on-site is the responsibility of the CONTRACTOR prior to, during, and after installation.

1.6 PLACEMENT AND HANDLING

A. Handle all materials in such a manner as to ensure it is not damaged in any way.
B. Materials shall not be dragged.
C. During placement, care shall be taken not to entrap stones, excessive dust, or moisture that could hamper subsequent performance. If pipe is not free of debris and soil prior to installation, the CONTRACTOR shall clean material prior to installation.
D. ENGINEER will examine the drainage piping over the entire surface to ensure that no potentially harmful foreign objects are present. Any foreign objects so encountered shall be removed by the CONTRACTOR or the pipe shall be replaced.
E. Handle all materials according to the manufacturer's written instructions.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers are named to establish a standard of quality necessary for the Project:
    1. ADS N-12 WT IB (watertight pipe)
    2. Or equal

2.2 PIPE

A. The drainage pipe and fittings shall be smooth interior, corrugated, high density polyethylene (HDPE) pipe with watertight joints and integral bell, and with dimensions as shown on the Contract Drawings.
B. Piping shall meet all requirements of AASHTO M-294.

C. Joints shall conform to ASTM 3212 lab test and ASTM C969 watertight field test or be approved by the ENGINEER.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Pipe shall be joined using bell and spigot joint type with factory-installed watertight gaskets, covering at least two full corrugations on each of the pipe ends.
B. Pipe connections to storm structures shall be watertight with flexible, resilient boots on the structure openings, and with the specified coupling bands and fittings for corrugated pipe.
C. CONTRACTOR shall protect the ends of the drainpipes from being damaged or from allowing foreign objects (e.g., debris, sand, filter fabric) from entering the pipes.
D. Each pipe shall be inspected by the CONTRACTOR prior to making connections to ensure pipe is free of foreign objects. Any foreign objects shall be removed by the CONTRACTOR.
E. The CONTRACTOR shall provide and install animal (Rat) guards on all inlets and outlets of the stormwater pipes, as manufactured by Agri-Drain or Equal.
F. CONTRACTOR shall exercise care to thoroughly compact the bedding material under the haunches of the pipe and to ensure that the material is in intimate contact with the pipe. The selected backfill shall be brought up evenly in layers on both sides of the pipe until the trench is filled to the required elevation.
G. CONTRACTOR shall replace or repair any damaged pipe as directed by the ENGINEER at no additional cost to the DEPARTMENT.
H. CONTRACTOR is responsible for all excavation and backfill required for complete installation of the storm pipe.

3.2 CONFORMANCE TESTING

A. Samples of materials delivered to the site may be collected for testing to confirm conformance with the properties in Part 2 of this Specification at the ENGINEER'S discretion.
B. Samples, if required, will be obtained by the ENGINEER. All testing performed will be paid for by the CONTRACTOR.

+ + END OF SECTION + +

SECTION XII

MEASUREMENT FOR PAYMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section covers the methods and procedures that the Department will use to measure the CONTRACTOR's Work and provide payment. This description 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 and Site conditions to determine the scope of the work included in each bid item.

B. Items listed starting in Part 3 of this Section refer to and are the same pay items listed in the Bid Form and constitute all pay items for completing the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant services, CONTRACTOR's or ENGINEER's field offices, layout surveys, Project signs, sanitary requirements, testing, safety provisions and safety devices, submittals and record drawings, water supplies, power and fuel, traffic maintenance, removal of waste, security, coordination with OWNER's operations, information technology (including hardware, software, and services) required during construction, bonds, insurance, or other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents. 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. Compensation for providing, as required, all supervision, labor, equipment, overhead, profit, material, tests, required services, applicable taxes, and for performing all other related Work items, shall be included in prices stipulated for lump sum and unit price pay items listed in this Section and included in the Contract.

C. 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 acceptance of the 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.

D. Each lump sum and unit bid price shall include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

E. 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.

F. For lump sum items, the CONTRACTOR will be paid on the basis of actual work accepted until the work 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 respective items listed in the Bid as outlined in the approved schedule of values.

G. 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.

H. 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 Work completed.

1.2 ENGINEER'S ESTIMATE OF QUANTITIES

A. The estimated quantities for Unit Price Items, as listed in the Bid Schedule, are approximate only and are included solely for purpose of the comparison of Bids. The ENGINEER does not expressly, or by implication, agree that nature of materials encountered or required shall correspond therewith and reserves the right to increase or decrease any such quantities or to eliminate quantities as the ENGINEER may deem necessary.

1.3 RELATED PROVISIONS

A. Payments to CONTRACTOR: Refer to General Conditions, Supplementary Conditions, and Agreement Section VI.

B. Changes in Contract Price: Refer to General Conditions, Supplementary Conditions and Agreement Section VI.

C. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Section X 01 29 73, Schedule of Values.

1.4 SUBMITTALS

A. Bid Breakdowns/Schedule of Values: Submit in accordance with Section VIII, Article 1.4, 1.6 and Article 13.

1.5 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.

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 this Section shall together include all work set forth in the Contract Documents or required to properly complete the Work. Any necessary Work that is not explicitly 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 limited to". Each item includes:

1. All tools, labor, material, equipment, plant services, bonds and insurance, tests, adjustments, warranties, overhead, supervision 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. For each lump sum bid item, the CONTRACTOR shall provide a schedule of values per Part 3 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 the specific costs of all items included in the lump sum bid item. The schedule of values shall be provided prior to initiation of the Work.

3. Measurement for Progress Payments of all lump sum items will be on a percent complete basis as established in the Contract Documents.

C. Unit Price Items: For each unit price bid item, the CONTRACTOR shall provide a schedule of values per Part 3 of this Section. The schedule of values shall include a breakdown of major cost items included within the unit price in sufficient detail to document the specific costs of all items included in the unit price bid item. The schedule of values shall be provided prior to initiation of the Work. Where items are specified to be measured on a unit basis, measurement will be of each particular unit as specified.

1. Volumetric Basis - Where solid or semi-solid items (e.g. sludge and sediment) are specified to be measured on a volumetric 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 as measured by land surveys. If no tolerance is specified, the tolerance shall be interpreted to be 0.00 foot. Where liquid items are

specified to be measured on a volumetric basis, the volume will be determined by direct readings obtained from a graduated container containing the liquid or from a calibrated meter designed to measure the quantity of liquid passing an established point or boundary (e.g. flow meter).

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. 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 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. No adjustments will be made for the 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 prior to loading and after loading. The measured tonnage will be the difference between the prior- and post-loading measured truck weights.

D. Measurement and payment will be made only for Work that has been acceptably performed within the limits shown on the Contract Documents and in conformance with the Contract Documents, as specified, or ordered by the ENGINEER.

PART 3 – BID ITEMS

A. Bid Item LS-1 – Mobilization and Demobilization

1. Measurement and Payment: The bid lump sum price for Bid Item LS-1 - Mobilization and Demobilization shall be the amount paid to the CONTRACTOR to mobilize and demobilize to the Site in accordance with the requirements of the Contract Documents. The CONTRACTOR may invoice for up to 70% of this item upon successful installation of the work and the remaining 30% at substantial completion. Item LS-1 – Mobilization will be made upon the completion of:
   a. Mobilization of personnel, equipment and complete installation, testing and placing into functional service, as determined by the Department and the Engineer, project support facilities, including:
      1. Temporary utilities as defined in Section 01 51 05, Temporary Utilities and Controls.
      2. Project Signs as defined in Section 01 58 00, Project Identification and Signs.
      3. Construction entrances as further defined in the Contract Documents.
      4. Decontamination pads as further defined in the Contract Documents.
      5. All facilities necessary to conduct Health and Safety and Community Air Monitoring Programs as further defined in Section 01 35 29, Contractor's Health and Safety Plan.
      6. Stockpile and staging areas as further defined in the Contract Documents.
      7. Field offices and support areas as further defined in Sections 01 52 11, Engineer's Field Office and Section 01 52 13, Contractor's Field Offices and Sheds.

8. Other environmental control measures as further defined in Section 01 35 29, Contractor's Health and Safety Plan.
9. Sanitary facilities as further defined in Section 01 51 05, Temporary Utilities and Controls.
10. Installation and removal of all temporary access roads as further defined in Section 01 55 13, Access roads and Parking Areas.
11. On-site and off-site traffic controls as further defined in Section 01 55 13, Access roads and Parking Areas.
12. Handling and proper disposal of Contractor generated waste as further defined in Section 01 35 43.13, Environmental Procedures for Hazardous Materials.
13. Project Plans including: the Project Plan, construction schedule, Health and Safety Plan, Community Air Monitoring Plan, UDS Construction Work Plan, Spill Prevention Control and Countermeasures Plan and Storm Water Pollution Prevention Plan as further defined in Section 01 33 00, Submittal Procedures.
14. Monitoring well abandonment of 15 wells further defined by Section 33 29 00, Monitoring Well Abandonment.
15. Monitoring well installation of 7 wells further defined by Section 33 11 53, Monitoring Well Installation.
16. Schedule, Shop Drawings, and Record Drawings as further defined in the Contract Documents.
17. Bonds and Insurances as defined in the Contract Documents.
18. Pre-Construction, Construction Progress and Post-Construction photo documentation as further defined by Section 01 32 33, Photographic Documentation.
19. Installing required erosion and sedimentation controls including but not limited to stabilized construction accesses, silt fence, augmented silt fence, hay bales, and stone check dams and defined withing Section 31 25 00 Erosion and Sediment Control.
20. Installing all Chain Link Fences and Gates as shown on the Contract Drawings and Specified. This work will include the following:
    - Chain Link Fence – 12,600 linear feet
    - 24 FT Double Swing Gate – 5 each
    - 20 FT Double Swing Gate – 2 each
    - 16 FT Double Swing Gate – 6 each
    - 6 FT Man Gates – 14 each
21. Other work not specifically included in other items including: compliance with applicable regulatory requirements; preconstruction and construction period planning; scheduling; submittals; reporting; administration and documentation; quality control; environmental protection and spill control; installation of sanitary sewer access steps as defined and/or shown on the Contract Drawings.

b. Demobilization of personnel, equipment and submission of all records and documentation as determined by the Department and the Engineer. Payments will be made based on the percent completed as agreed to by ENGINEER of the amount of Bid Item LS-1 – Mobilization and Demobilization.

B. Bid Item LS-2 – Surveying

1. Measurement and Payment: The bid lump sum price for Bid Item LS-2 – Surveying, shall be the amount paid to the Contractor for site survey work properly performed in accordance with the requirements of the Contract Documents. Work shall include, but is not limited to, completely and properly furnishing acceptable site surveys in accordance with Section 01 71 23 – "Field Engineering" and Section 02 21 13 – "Survey". The CONTRACTOR may invoice for up to 70% of this item upon successful completion and submittal of the site surveys and the remaining 30% at substantial completion of the project as approved by the Engineer.

Bid Item LS-3 – Access Roads - Improvements/Maintenance and Creation

1. Measurement and Payment:
2. Measurement for Incinerator Road shall be based upon the following:
   a. 12" Thick Select Fill (Run-of-Crusher) – 4,375 lf x 24 ft (3888 cubic yards)
   b. Geotextile Stabilization Fabric – 12,000 square yards
3. Measurement for the access road along the canal to the UDS area shall be based upon the following:
   a. 6" Thick Select Fill (Run-of-Crusher) – 10,500 lf x 12 ft (2333 cubic yards)
   b. Geotextile Stabilization Fabric – 14,000 square yards
4. Measurement for the perimeter access roads located at the Utica Dump site shall be based upon the following:
   c. 12" Thick Select Fill (Run-of-Crusher) – 7,000 cubic yards
   d. Geotextile Stabilization Fabric – 21,000 square yards
5. Payment for Incinerator Road and the access road to the UDS area Improvements/Maintenance shall be made on a Lump Sum basis, paid following 95% completion of the work. Under this Payment Item, the CONTRACTOR shall provide all labor, equipment, and material necessary to perform necessary improvements and maintenance to Incinerator and Dyke Roads including, but not limited to: excavation, hauling and placement of select fill, installation of the stabilization fabric.
6. Payment for Perimeter Access Roads at the Utica Dump site shall be made on a Lump Sum basis paid to the Contractor for the installation of the Perimeter Access Roads. Under this Payment Item, the CONTRACTOR shall provide all labor, materials, equipment, and incidentals necessary to construct the Perimeter Access Roads including, but not limited to: excavation, hauling and placement of select fill, and installation of stabilization fabric. Payment for Perimeter Access Roads shall be based on the percent completed as agreed to by the ENGINEER of the amount of Bid Item LS-3 - Access Roads - Improvements/Maintenance and Creation

C. Bid Item LS-4 – Demolition of the Incinerator Stack, Associated Subgrade Structures and Former Pump House–

1. Measurement and Payment: The bid lump sum price for the Demolition of the Incinerator Stack, the Associated Subgrade Structures and the former pump house shall be the amount paid to the CONTRACTOR for structural demolition in accordance with the requirements of the Contract Documents. Work shall include, but is not limited to, coordination with NYSDOL and USEPA permits for demolition of asbestos containing structures and work plans to be prepared by the CONTRACTOR, stack demolition, environmental controls during demolition, demolition debris management, temporary controls during demolition (i.e. temporary fence), and the backfilling and abandonment of the associated subgrade structures. Payments will be made based on the percent completed as agreed to by ENGINEER of the amount of Bid Item LS-4 – Demolition of the Incinerator Stack,

Associated Subgrade Structures and Former Pump House.

D. Bid Item LS-5 – Construction Water Management

1. Measurement and Payment: The bid lump sum price for Construction Water Management shall be the amount paid to the Contractor for collection and offsite disposal of contact water removed from the project site. Work shall include, but is not limited to, the cost to collect and pump stormwater runoff out of active work areas, the cost to collect, pump, store, test, transport, and dispose of contaminated contact water, along with the cost of any permits required. The CONTRACTOR may invoice for up to 70% of this item upon successful installation of the work and the remaining 30% at substantial completion of the project as approved by the Engineer.

E. Bid Item LS-6 – Clearing and Grubbing

a. Measurement and Payment: The bid lump sum for Bid Item LS-6 – Clearing and Grubbing shall be the amount paid to the Contractor for properly clearing and grubbing the Site for proper execution of the Contract. Work shall include, but is not limited to, the proper handling and management of removed vegetation, protection of vegetation to remain, establishment of erosion and sedimentation controls, and proper disposal of cleared and grubbed materials. Payment will be made based on the percent completed as agreed to by the ENGINEER of the amount of Bid Item LS-6 – Clearing and Grubbing.

F. Bid Item LS-7 – Drainage Swales and Discharge Systems

1. Measurement and Payment: Bid Item LS-7– Drainage Swales and Discharge Systems shall be bid lump sum for materials placed to construct the drainage swales and discharge systems. Provide all labor, materials, equipment, and incidentals necessary to construct the drainage swales and discharge systems including, but not limited to: installation of culvert pipes, and all erosion control materials as specified and or shown on the Contract Drawings. Payment for Drainage Swales and Discharge System shall be based on the percent completed as agreed to by the ENGINEER of the amount of Bid Item LS-7 - Drainage Swales and Discharge Systems.

    a. Biodegradable Erosion Control Blanket – 46,800 square yards
    b. 18" HDPE Culvert – 80 linear feet
    c. 24" HDPE Culvert – 35 linear feet
    d. 36" HDPE Culvert – 1,045 linear feet
    e. Riprap Lined Swales – 15
    f. Outlet Aprons – 15

G. Bid Item LS - 8 – Loading / Unloading Platforms

1. Measurement and Payment: Bid Item LS-8 Loading / Unloading Platforms shall be Lump Sum. The Contractor shall provide all labor, materials, equipment, and incidentals necessary to install the Loading Platform located at the UDS area and the Unloading platform located at the Utica Dump Site including, but not limited to, installation of the platforms, bank excavation and restoration, and dredging of approximately 1,500 cubic yards of sediment for barge access. Payments will be made based on the percentage of completion as agreed to by the ENGINEER of the amount of Bid Item LS-9 – Loading / Unloading Platforms.

H. Bid Item UP-1 – Site Services (Reimbursed on a per Calendar Day basis)

1. Payment: The bid unit price for Bid Item UP-1 – Site Services shall be the amount paid each calendar day for the CONTRACTOR to provide or maintain Site Services to the Site in accordance with the requirements of the Contract Documents. These site services include:
   a. Maintain site security,
   b. Maintaining construction entrances,
   c. Maintaining and operating field offices and support areas,
   d. Maintaining project signs,
   e. Maintaining sanitary facilities,
   f. Maintaining on-site and off-site traffic controls,
   g. Access roads maintenance,
   h. Fencing and gate maintenance,
   i. Maintaining compliance with permit-equivalency requirements,
   k. Conducting project meetings,
   l. Maintaining project records,
   m. Site superintendence,
   n. Staging and stockpile area maintenance,
   o. Maintaining temporary utilities,
   p. Maintaining field offices,
   q. Implementing the Project Plan,
   r. Maintaining an updated construction schedule,
   s. Implementing the Spill Prevention Control and Countermeasures Plan,
   t. Providing other services not specifically listed but required by the Contract Documents.
2. Measurement for payment: The bid unit price for Bid Item UP-1 – Site Services will be paid in full for each calendar day that <u>all</u> site services are provided by the CONTRACTOR beginning after the completion of mobilization, as defined in Bid Item LS-1 and ending at substantial completion or at the end of the Contract Time specified in Section VI Article 6.1, whichever is sooner.

I. Bid Item UP-2 –Health and Safety (Reimbursed on actual operation [Working Day])

1. Payment: The bid unit price for Bid Item UP-2 –Health and Safety shall be the amount paid each working day for the CONTRACTOR to conduct the activities necessary to implement the Health and Safety Plan at the Site in accordance with the requirements of the Contract Documents. Services include, but are not limited to, the maintenance of the site-specific health and safety plan and the community air monitoring plan.
2. Measurement for payment: The bid unit price for Bid Item UP-2 – Health and Safety will be paid in full for each working day that:
   a. All of the elements of the CONTRACTOR's Health and Safety Plan are in place, and
   b. The CONTRACTOR conducts the activities necessary to implement the Health and Safety Plan fully.

   The period of potential payment for Bid Item UP-2 - Health and Safety shall begin the time that Mobilization begins and shall be considered complete at the end of the Contract Time specified in Section VI, Article 6.1, whichever is sooner. A 100 % reduction in the payment for this item will occur for each working day the CONTRACTOR fails to adhere (in the opinion of the Department or the Engineer) to the Health and Safety Plan. There will be one hundred (100) percent reduction in this Bid Item for days where no Work occurs in the exclusion zone. No payment will be made for Saturdays, Sundays and holidays specified in Section XIII if no Work occurs in the exclusion zone.

J. Bid Item UP-3 –Waste Relocation

1. Payment: Bid Item UP-3 – Waste Relocation shall be bid unit cost per cubic yard of waste that is relocated from the limits of excavation to within the proposed limits of the ET Cover System. Provide all labor, equipment, and incidentals necessary to relocate the waste, in the quantities, and to the lines, grades and elevations shown or specified, or ordered by the Engineer and/or Department, including, but not limited to: stockpiling, loading, transporting, installation of the demarcation fabric, placing and compaction of the waste material within the limits of the ET Cover System.
2. Measurement for Payment: The Excavation and Placement of Waste Material shall be the actual number of cubic yards of excavation and materials placed as measured by survey. The estimated quantities for these items are as follows:

    a. Excavation and Placement of Waste Material – 287,500 cubic yards
    b. Geotextile Demarcation Fabric – 132,000 square yards

The combined unit price cost bid for Bid Item UP-3 shall be based upon a total of 287,500 cubic yards.

K. Bid Item UP-4 – Canal Corp Dredge Material Handling

1. Payment: Bid Item UP-4 – Canal Corp Dredge Material Handling shall be bid unit cost per cubic yard of material transported and placed from the Canal Corp UDS. Provide all labor, materials, equipment, and incidentals necessary to excavate and manage the Canal Corp Dredge Materials including, but not limited to dewatering of clean water from within the UDS area if necessary, all associated permits if required, excavation, loading, transportation to the Utica Dump Site via tug boat and barge, unloading, establishing drying beds, and drying.
2. Allow the UDS materials to dry for a period of at least two to three days.
3. Measurement for payment: The Canal Corp Dredge Material Handling shall be the actual number of cubic yards of material as quantified by survey. The estimated quantities for these items are as follows:

    a. UDS Material Handling – 432,500 cubic yards

L. Bid Item UP-5 – Grading Outside Limits of the ET Cover to Wetlands

1. Payment: Bid Item UP-5 – Grading Outside Limits of the ET Cover to Wetlands shall be bid unit cost per cubic yard of fill material that is placed to meet final subgrades. Provide all labor, materials, equipment, and incidentals necessary to place UDS fill material and existing stockpiled BUD fill material on site, in the quantities, and to the lines, grades and elevations shown or specified, or ordered by the Engineer and/or Department, including, but not limited to: stockpile, load, transport, placement, grading and compaction of materials.
2. Measurement for Payment: The Grading Outside Limits of the ET Cover to Wetlands shall be the actual number of cubic yards placed as measured by survey. The estimated quantities for these items are as follows:

    a. Placement, grading, and compaction of fill (from limits of cover under access road 1:3 slope to wetlands) – 96,000 cubic yards.

The combined unit price cost bid for Bid Item UP-5 shall be based upon a total of 96,000 cubic yards.

M. Bid Item UP-6 – Evapotranspiration Cover (ET Cover)

1. Payment: Bid Item UP-6 – ET Cover shall be bid unit price cost per cubic yard of materials placed. Provide all labor, equipment, and incidentals necessary to place the ET Cover (UDS fill material), in the quantities, and to the lines, grades, and elevations shown or specified, or ordered by the Engineer and/or Department including, but not limited to: furnish and install demarcation geotextile, placement, grading, and compaction of the ET Cover soils.
2. Measurement for payment: The ET Cover shall be the actual number of in-place cubic yards of ET Cover materials placed as quantified by survey. The estimated quantities for these items are as follows:

    a. Geotextile Demarcation Fabric – 500,000 square yards
    b. Cover Layer (18") – 252,000 cubic yards
    c. Vegetative Soil (6") – 84,000 cubic yards
    d. Seeding, Fertilizer and Mulch – 500,000 square yards

    The combined unit price cost bid for Bid Item UP-6 shall be based upon a total of 336,000 cubic yards.

N. Bid Item UP-7 – Wetland Construction

1. Payment: Bid Item UP-7 – Wetland Construction shall be bid unit cost per square foot of materials placed for the construction of the wetlands. Provide all labor, equipment, and material necessary to procure and plant the wetland species of plants specified, and place seed, mulch, and fertilizer as specified in wetland areas as shown on the Contract Drawings following final placement and grading of amended UDS material. Amend and place UDS material, previously transported to the Utica Dump Site, as specified.
2. Measurement for payment: The Wetland Construction shall be the actual square feet of areas planted as quantified by survey. The estimated quantities for these items are as follows:

    a. Excavation – 59,500 cubic yards
    b. Fill (previously excavated material) – 24,500 cubic yards
    c. Excess excavated material to be placed beneath the ET Cover – 35,000 cubic yards
       Amend UDS Material and place (Wetland Topsoil) – 28,500 cubic yards
    d. Shallow Emergent Marsh – 286,500 square feet
    e. Deep Water Marsh – 236,700 square feet
    f. Wet Meadow – 127,700 square feet
    g. Wetland Scrub – 65,700 square feet
    h. Floodplain Forest – 59,550 square feet

    The combined unit price cost bid for Bid Item UP-7 shall be based upon a total of 776,150 square feet.

O. Bid Item UP-8 – Restoration of Perimeter Slopes

1. Payment: Bid Item UP-8 – Restoration of Perimeter Slopes shall be bid unit cost per square feet of materials placed for the restoration of perimeter slopes as quantified by survey. Provide all labor, materials, equipment, and incidentals necessary to place the perimeter

slope materials, in the quantities, and to the lines, grades and elevations shown or specified, or ordered by the Engineer and/or Department including, but not limited to: seeding, fertilizer, and mulch.

2. Measurement for payment: The Restoration of Perimeter Slopes shall be the actual number of in-place square feet of material placed and quantified by survey. The estimated quantities for these items are as follows:

   a. Seeding, Fertilizer and Mulch – 272,500 square feet

   The combined unit price cost bid for Bid Item UP-8 shall be based upon a total of 272,500 square feet.

P. Bid Item UP-9 – Waste Tires

1. Payment: Bid Item UP-9 – Waste Tires shall be bid unit cost per ton of tires transported from the site. Provide all labor, materials, equipment, and incidentals necessary to load and transport the Waste Tires from the site including, but not limited to: excavation, hauling and disposal.
2. Measurement for payment: The Waste Tires shall be the actual number of tons of waste tires transported from the site and disposed of.

   The unit price cost bid for Bid Item UP-9 shall be based upon a total of 10 tons.

Q. Bid Item UP-10 – Demolition Debris Asbestos Containing Materials -Transport and Disposal

1. Payment: Bid Item UP-10 – Demolition debris-Asbestos Containing Materials shall be bid unit cost per ton of debris transported from the site and disposed of at a certified facility. Provide all labor, materials, equipment, and incidentals necessary to load and transport the demolition debris from the site including but not limited to: hauling and disposal of Demolition Debris Asbestos Containing Materials.
2. Measurement for payment: The Demolition Debris Asbestos Containing Materials shall be the actual number of tons of Demolition Debris Asbestos Containing Materials transported from the site and disposed of in accordance with all Laws and Regulations at a certified disposal facility. Certified disposal weight tickets must be submitted for payment.

   The unit price cost bid for Bid Item UP-10 shall be based upon a total of 200 tons.

R. Bid Item UP-11 – Winter Shutdown

1. Payment: Bid Item UP-11 – shall be bid unit price per WORK DAY for WINTER SHUTDOWN per the Contract Documents.
   Provide all labor, materials, equipment, and incidentals necessary for the work described below, in accordance with Specification Section 01 92 13 – Winter Shutdown, and described below but not limited to:
   a. Interim mobilizations/demobilizations associated with winter shutdown.
   b. Providing site security during the winter shutdown period.
   c. Maintaining the Site including access roads, plowing, stormwater controls, and erosion and sedimentation controls.
   d. Maintaining access controls including fence, gates, and barricades.
   e. Maintaining field offices and temporary utilities, as required.
   f. Providing and installing additional winter erosion and sediment controls.
   g. Providing and installing additional winter stormwater controls.
   h. Performing weekly on-site inspections, documenting, and reporting.

2. Measurement for payment:

a. Bid Item UP-11 shall be paid for at the unit price bid for each work day of the winter shutdown as approved by the **ENGINEER**.

++ END OF SECTION ++

SECTION XIII

Wage Rates and Associated Contract Requirements

Associated wage rates and DOL
language will follow via addendum

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