MATTON SHIPYARD
Preservation & Adaptive Reuse Initiative
Phase 2
Soil Remediation and Shoreline Restoration Project

Bid Due Date & Place:
June 26, 2024 by 10:00 AM

Erie Canalway Heritage Fund, Inc
1 Delaware Avenue
Cohoes, New York 12047
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MATTON SHIPYARD
Preservation & Adaptive Rescue Initiative
Phase 2
Soil Remediation and Shoreline Restoration

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SECTION 00116

INVITATION TO BID

A Sealed bid for the:

MATTON SHIPYARD
Preservation & Adaptive Reuse Initiative
Phase 2
Soil Remediation and Shoreline Restoration

will be received at the following address:

Erie Canalway Heritage Fund, Inc
c/o Bob Radliff, Executive Director

<table>
<thead>
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<th>For Submission via United States Postal Service:</th>
<th>For Submissions via shipping services such as UPS or Fed Ex:</th>
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<tbody>
<tr>
<td>PO Box 219</td>
<td>1 Delaware Avenue</td>
</tr>
<tr>
<td>Waterford, NY 12188</td>
<td>Cohoes, NY 12047</td>
</tr>
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until 10:00 AM local time on Wednesday, June 26th.

Bids will be subsequently opened and read aloud at 10:15 AM, Wednesday, June 26, 2024.

The Project generally consists of the following work:

Project includes mobilization, removal and disposal of contaminated soils, installation of a stone parking area, sediment and erosion control including waterfront measures and turbidity curtain, selective demolition and removal or shoreline structures and debris, cut and fill of onsite soils, import of fill and finished grading, installation of timber piling wall, installation of vegetative shoreline, general stabilization and restoration.

This work will be awarded as one (1) single prime contract. The Bid will be received on a time and materials basis with the base bid including all work. It is the sole discretion of the OWNER to select and/or reject the alternates according to total bid cost.

Work shall be substantially completed by November 29, 2024.
Final restoration shall be completed and the project ready for final payment by June 27, 2025.

The Bid should not include sales and compensating use taxes on materials incorporated into the work.

If the Bid is actually received after the appointed time on the date specified it shall be rejected.

Bid security in the amount of 5% of the Bid must accompany the Bid in accordance with the Instruction to Bidders.

The successful Bidder will be required to furnish a performance bond and a payment bond, each in an amount equal to 100% of the contract price. Bidders will also be required to furnish a Non-Collusive Affidavit.
Notice to Bidders:

A. This project is funded in part by a grant from the NYS Office of Parks, Recreation and Historic Preservation through Title 9 of the Environmental Protection Act of 1993.

B. All bidders are subject to the terms of the NYS Master Contract for Grants -- Standard Terms and Conditions, which can be found online at http://grantsreform.ny.gov/. Please see NOTICE TO CONTRACTORS, SUBCONTRACTORS, SUPPLIERS AND VENDORS document included in Supplemental Conditions.

C. Upon selection, for all contracts that equal or exceed $100,000, the contractor will be required to submit to the State a Vendor Responsibility Questionnaire: Construction – For-Profit. The questionnaire can be found online at http://www.osc.state.ny.us/vendrep/forms_vendor.htm.

D. The Bidders must comply with New York State Department of Labor Prevailing Wage Rate Schedules and conditions of employment.

E. Minority and Women-owned Business Enterprises (MWBEs), Service Disabled Veteran Owned Business (SDVOBs) contractors and vendors, and certified Section 3 companies in New York State are encouraged to apply.

F. New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 ("MWBE Regulations") Participation.

   1. The project requires equal employment opportunities for minority group members and women (EEO) and contracting opportunities for certified minority and women-owned business enterprises (MWBEs). The project goals for New York State certified MWBEs have been established as 30% (Minority-Owned and Women-Owned) for this contract.

Drawings and Specifications may be examined at the following locations:

<table>
<thead>
<tr>
<th>Dataflow</th>
<th>Erie Canalway Heritage Fund, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2215 Central Ave.</td>
<td>1 Delaware Avenue North</td>
</tr>
<tr>
<td>Schenectady, NY 12304</td>
<td>Cohoes, NY 12047</td>
</tr>
<tr>
<td>P. 518 463 2192 or 518.992.7220</td>
<td></td>
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<tr>
<td><a href="https://www.nyplanroom.com/">https://www.nyplanroom.com/</a></td>
<td></td>
</tr>
</tbody>
</table>

The bidding and contract documents for this Project will be available electronically, for a fee of $49, from Dataflow, 2215 Central Ave, Schenectady, NY 12304; P. 518 463 2192 or 518.992.7220. Website Portal: [https://www.nyplanroom.com/](https://www.nyplanroom.com/). Please note that any hard copy printing requested of Dataflow is done at the expense of the bidder.

Pre-bid Meeting: A non-mandatory pre-bid meeting on site will be conducted at **1:00 PM on Wednesday, May 29th**.

Note that only bidders who purchase sets from and/or are registered with LaBella Associates will receive notification of Addenda.

Attention of Bidders is particularly called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of their race, color, religion, sex or national origin.

The **Erie Canalway Heritage Fund, Inc.**, as *Owner, reserves the right to waive any informalities or irregularities in the Bid received, or to reject any and all Bid(s) without explanation. Owner reserves the right to select or reject the base bid or any of the alternates as defined*(Through a permit, Erie Canalway Heritage Fund, Inc., is authorized to manage this project on behalf of the real property owner, the NYS Office of Parks, Recreation and Historic Preservation)
BID FORM
FOR
Matton Shipyard Pre-Development Phase 2
Soil Remediation and Shoreline Restoration

Matton Shipyard Pre-Development Phase 2
Soil Remediation and Shoreline Restoration
PO Box 219
Waterford, NY 12188
Attention: Mr. Bob Radliff

1. The Undersigned hereby declares that it has carefully examined all Bidding and Contract Documents and has inspected the actual location of Work, together with the local sources of supply, and has satisfied itself as to all quantities and conditions, and understands that in signing this Proposal, it waives all rights to plead any misunderstanding regarding the same.

2. The Undersigned further understands and agrees that it is to do, perform and complete all the Work in accordance with the Contract Documents and Contract and to accept in full compensation therefor, the amount of the Base Bid, modified by such additive or deductive alternatives, if any, as are accepted by the Owner.

3. In submitting this Bid, the Undersigned agrees:
   a. To hold the Bid open for forty-five (45) days after Bid Opening.
   b. To accept the provisions of the Instructions to Bidders.
   c. To enter into and execute a Contract within ten (10) days of the Notice of Award issue date, to simultaneously furnish insurance certificates.
   d. To commence the Work immediately upon receipt of Notice to Proceed.

4. The Undersigned agrees that the Work proposed herein will be Substantially Complete by the date indicated in specification Section 011000 “General Requirements”.

5. By submission of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of the party’s knowledge and belief:

   a. 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,
   b. unless otherwise required by law, the prices that 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
   c. no attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a Bid for the purpose of restricting competition.

A Bid shall not be considered for award, nor shall any award be made where a., b., and c. above have not been complied with, provided however, that if in any case the Bidder
cannot make the foregoing certification, the Bidder shall so state and shall furnish, with the Bid, a signed statement which sets forth in detail the reasons therefor. Where a., b., and c. above have not been complied with, the Bid shall not be considered for award, nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a Bidder (a) has published price lists, rates or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being Bid, does not constitute, without more, a disclosure within the meaning of this Section.

6. The Undersigned understands that the Owner reserves the right to accept or reject any or all Bids and to waive any informalities in the bidding.

7. The Undersigned acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein:

<table>
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8. **BASE BID**

All labor, material, services and equipment necessary to complete mobilization, removal and disposal of contaminated soils, installation of a stone parking area, sediment and erosion control including waterfront measures and turbidity curtain, selective demolition and removal or shoreline structures and debris, cut and fill of onsite soils, import of fill and finished grading, installation of timber piling wall, installation of vegetative shoreline, general stabilization and restoration.

9. **ALTERNATES**

The Undersigned agrees to provide all work in accordance with the requirements of the Specifications and the Drawings and includes all costs of related coordination, modification, or adjustment for the following:

None.

10. **UNIT PRICES**

The Undersigned agrees to perform all work as drawn and specified for the following items at the unit prices given:
## Base Bid

<table>
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<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Estimated Quantity</th>
<th>Bid Unit Price</th>
<th>Bid Amount</th>
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<tr>
<td>1</td>
<td>Mobilization</td>
<td>LS</td>
<td>1</td>
<td>$</td>
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<td>2</td>
<td>Temporary Facilities and Controls</td>
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<td>1</td>
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<td>$</td>
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<td>3</td>
<td>Soil Sampling, Testing, and Analysis</td>
<td>LS</td>
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<td>$</td>
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<td>4</td>
<td>Clearing and Grubbing</td>
<td>LS</td>
<td>1</td>
<td>$</td>
<td>$</td>
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<td>5</td>
<td>Earthwork</td>
<td>CY</td>
<td>400</td>
<td>$</td>
<td>$</td>
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<td>6</td>
<td>Install and remove Decontamination Pad</td>
<td>LS</td>
<td>1</td>
<td>$</td>
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<td>7</td>
<td>Removal and Disposal of Contaminated Soils</td>
<td>CY</td>
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<td>8</td>
<td>Install Stone Parking Lot</td>
<td>CY</td>
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<td>10</td>
<td>Furnish and Install Erosion Control Mat Type 1</td>
<td>SY</td>
<td>860</td>
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Total of All Unit Price Base Bid Items $  
Allowance 1: Environmental Monitoring $25,000  
Allowance 2: Owner’s Contingency $20,000  

TOTAL BID PRICE $
(Name of Bidder)

Legal name of person, partnership, joint venture or corporation *(please type)* (If corporation, affix corporate seal)

Address *(please type)*

Federal ID No. or Social Security No. *(please type)*

Phone No. *(please type)*

FAX No. *(please type)*

Name and title of signer *(please type)*

Signature ___________________________ ___________________________ Date

If a Corporation
Name ___________________________ Address ___________________________

, PRESIDENT ___________________________

, SECRETARY ___________________________

, TREASURER ___________________________

If a Partnership
Name of Partners ___________________________ Address ___________________________

_________________________ ___________________________

_________________________ ___________________________

If a Joint Venture
Name of Members ___________________________ Address ___________________________

_________________________ ___________________________

_________________________ ___________________________

If an Individual
Name of Individual ___________________________ Address ___________________________
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ARTICLE 1—DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

   A. **Bidder** - one who submits a Bid directly to Owner as distinct from a sub-bidder, who submits a bid to a Bidder.

   B. **Issuing Office** - the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

   C. **Successful Bidder** - the lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

ARTICLE 2—BIDDING DOCUMENTS

2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.

2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.

2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.

2.04 Electronic Documents

   A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.

      1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version or later. It is the intent of the Architect and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Architect cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Architect cannot...
and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.04.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

C. Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the Issuing Office. The deposit, if any may be refunded as stated in the Invitation to Bid.

2.05 Each bidder will be provided with one copy of the Bid Documents by email. Additional copies of the Bidding Documents on CD may be obtained by LaBella Associates for $25 per additional copy. The Bidder shall also pay for all associated shipping fees for copies requested to be mailed.

2.06 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.07 Owner and Architect in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

3.01 To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five (5) days after Bid Opening upon Owner’s request detailed written evidence such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Instructions). Some or all of this data may be requested as part of the Bid by inclusion of a Bidder’s Qualification Statement in the Bid Forms that must be completed by all Bidders. Each bid must contain evidence of Bidder’s qualification to do business in the state where project is located or covenant to obtain such qualification prior to award of the contract.

ARTICLE 4—PRE-BID CONFERENCE

4.01 A non-mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Architect will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.

4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions
at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—EXAMINATION OF CONTRACT DOCUMENTS AND SITE

5.01 It is the responsibility of each Bidder before submitting a Bid:

A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents.

B. To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work;

C. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;

D. To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data, and;

E. To promptly notify Architect of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.

5.02 Reference is made to the Supplementary Conditions for identification of:

A. Those reports of explorations and tests of subsurface conditions at the site or contiguous to the site which have been utilized by Architect in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the “technical data” contained in such reports, but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, or upon the completeness thereof for the purposes of bidding or construction.

B. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Architect in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings, but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, or upon the completeness thereof for the purposes of bidding or construction.

Copies of such reports and drawings will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph SC-5.03 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data” or any such data, interpretations, opinions or information.

5.03 Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based upon information and data furnished
to Owner and Architect by owners of such Underground Facilities or others, and Owner and Architect do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

5.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 5.04 and 5.05 of the General Conditions.

5.05 Before submitting a Bid each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

5.06 If required by the Contract Documents, the Owner will provide each Bidder with access to the site to conduct such examinations, investigations, explorations, tests and studies necessary for submission of a Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests and studies.

5.07 Each bidder must inform themselves of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of their obligation to furnish all material and labor necessary to carry out the provisions of their contract. Insofar as possible the contractor, in carrying out the Work, must employ such methods or means as will not cause any interruption of or interference with the Work of any other contractor.

5.08 At the time of the opening of Bids each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and Contract Documents (including all Addenda). The failure or omission of any Bidder to examine any form, instrument or document shall in no way relieve any Bidder from any obligation in respect of his/her bid.

5.09 The Contractor agrees that before making a Contractor’s proposal the Contractor carefully examines the Contract Documents, together with the site of the proposed Work, as well as its surrounding territory, and is fully informed regarding all the conditions affecting the Work to be done and labor and materials to be furnished for the completion of this contract, including the existence of wire, pipes, and other facilities and structures of municipal and other public service corporations on, over and under the site, and that this information was secured by personal investigation and research and not from estimates or records of the Owner, and that he will make no claim against the Owner by reason of estimates, tests, or representations of any officer or agent of the Owner.

5.10 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, that Bidder has given Architect written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has
discovered in the Contract Documents and the written resolutions thereof by Architect is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6—AVAILABILITY OF LANDS FOR WORK, ETC

6.01 The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or changes in existing structures are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.

7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Architect in writing. Contact information and submittal procedures for such questions are as follows:

7.03 Bidder questions for the Engineer must be submitted in writing to LaBella Associates, 4 British American Blvd, Latham NY 12110, (Attn: Edward Larkin) or by email elarkin@labellapc.com.

7.04 Interpretations or clarifications considered necessary by Architect in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than ten (10) days prior to the date for opening of Bids may not be answered.

7.05 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) percent of Bidder’s maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid
security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner’s damages in the case of a damages-form bond. Such forfeiture will be Owner’s exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.

ARTICLE 10—LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11—SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Architect authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Architect until after the Effective Date of the Contract.

11.02 During the bid period:

The materials and equipment described in the Bidding documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by Engineer/Architect at least fifteen (15) days prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or Work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed
substitute is upon the Bidder. The Engineer/Architect’s decision of approval or disapproval of a proposed substitution shall be final. If Engineer/Architect approves any proposed substitution, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approval made in any other manner.

11.03 After Contact award:
The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Architect, application for such acceptance will not be considered by Architect until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Architect is set forth in Paragraphs 7.04 of the General Conditions and may be supplemented in the General Requirements.

11.04 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 12—SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 Subcontracting of work to a maximum of fifty percent (50%) of the total contract amount is permissible under this contract.

12.02 If the work to be subcontracted requires licensing, evidence of proper licensing must be submitted with the request for approval. All subcontractors must submit proof of insurance. (Contractor's bodily injury, Contractor's property damage liability insurance, including blasting insurance and Workmen's Compensation Insurance) in the same amounts required under the Contractor's Agreement with the Owner.

12.03 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organizations to be submitted to Owner in advance of the Notice of Award, the apparent Successful Bidder, and any other Bidder so requested, shall within seven (7) days after the Bid opening submit to Owner a list of all Subcontractors, Suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work for which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person or organization if requested by Owner. If Owner or Engineer/Architect after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, either may before the Notice of Award is given request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder that proposes to use acceptable Subcontractor, Supplier, and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person
or organization listed and to whom Owner or Architect does not make written objection prior to giving of the Notice of Award will be deemed acceptable to Owner and Architect subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.06, of the General Conditions.

12.05 Some or all of such identification of subcontractors and material and equipment suppliers may be requested as part of the Bid by inclusion of an appropriate form(s) in the Bid Forms that must be completed by all Bidders.

12.06 No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom the Contractor has reasonable objection.

ARTICLE 13—BID FORM

13.01 The Bid Form is included with the Bidding Documents; additional copies may be obtained from Architect (or the Issuing Office).

13.02 All blanks on the Bid Form must be completed by printing in black ink or by typewriter. Where space has been provided, the Bid price(s) on the form must be stated in words and numerals; in case of a conflict, words will take precedence. Any quantities shown for unit price items are only an estimate and are in no way guaranteed as final quantities.

13.03 Bids by corporations must be executed in the corporate name by the president or a secretary and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

13.04 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official business address of the partnership must be shown below the signature.

13.05 Bids by LLCs are to be signed by managing member/operating manager. All names must be typed or printed in black ink below the signature.

13.06 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

13.07 The business address and telephone number for communications regarding the Bid must be shown.

13.08 Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided. State contractor license number, if any, must also be shown.

ARTICLE 14—SUBMITTAL OF BIDS

14.01 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is
submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid must be addressed to the location designated in the Advertisement.

14.02 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BIDS

15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.

15.03 If within seventy-two (72) hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 16—OPENING OF BIDS

16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE.

17.01 All Bids will remain subject to acceptance for forty-five (45) days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

18.01 Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Owner also reserves the right to waive all informalities not involving price, time, or
changes in the Work and to negotiate contract terms with the Successful Bidder. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

18.02 In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternatives, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award. It is the Owners intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid Form, but Owner may accept them in any order or combination. If unit-priced alternatives are accepted by Owner the Contract will be awarded on the basis of the Bid with substitutions of affected payment items, estimated quantities, unit prices, and total prices included on the Bid Form.

18.03 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

18.04 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner’s satisfaction within the prescribed time. Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner’s satisfaction.

18.05 If the contract is to be awarded, it will be awarded to lowest Bidder whose evaluation by the Owner indicates to Owner that the award will be in the best interests of the Project.

18.06 If the contract is to be awarded, Owner will give Successful Bidder a Notice of Award within forty-five (45) days after the day of the Bid opening.

ARTICLE 19—BONDS AND INSURANCE

19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

19.02 All bonds are required to be obtained from companies holding certificates of authority as acceptable sureties pursuant to 31 CFR part 223, “Surety Companies Doing Business with the United States.” Performance Bonds shall be provided on EJCDC form C-610, no other forms are acceptable. Payment Bonds shall be provided on EJCDC form C-615, no other forms are acceptable.
19.03 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—DISQUALIFICATION

20.01 The Owner reserves the right to refuse to issue a Bid Form to a prospective Bidder should such Bidder be in default for any of the following reasons:

A. Failure to comply with any pre-qualification regulations of the Owner, if such regulations are cited or otherwise included, in the Contract Documents as a requirement for Bidding.

B. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the Contract Documents to a prospective Bidder.

C. Contractor defaulted under previous contracts with the Owner.

D. Contractor has performed unsatisfactory work on previous contracts with the Owner.

20.02 Bids received from Bidders who have previously failed to complete contracts within the time required, or who have previously performed similar work in an unsatisfactory manner, may be rejected. A Bid may be rejected if the Bidder cannot show that he has the necessary ability, plant and equipment to commence the work at the time prescribed and thereafter to complete the work at the rate or within the time specified. A Bid may be rejected if the Bidder is already obligated for the performance of other work that would delay the commencement or completion of the work.

20.03 The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations contained in the Contract Documents and to complete the work described therein.

20.04 Bids shall be considered irregular and rejected for the following reasons:

A. If the Bid is on a Form other than that furnished by the Owner, or, if the Owner's Bid Form is altered, or, if any part of the Bid Form is detached.

B. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind which make the Bid incomplete, indefinite, or otherwise ambiguous.

C. If the Bid contains unit prices that are obviously unbalanced.

D. If the Bid is not accompanied by the Bid Security specified by the Owner.

ARTICLE 21—SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within fifteen (15) days thereafter, Successful Bidder must execute and deliver
the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within ten (10) days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22—SALES AND USE TAXES

22.01 Owner is exempt from New York State Sales and Use Taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Contract Price. Refer to Supplementary Conditions SC-7.10 for additional information.

ARTICLE 23—RETAINAGE

23.01 Provisions concerning retainage and Contractors’ rights to deposit securities in lieu of retainage are set forth in the Agreement.

END OF SECTION
SECTION 004325

SUBSTITUTION REQUEST FORM

Do you plan to substitutions for any part of the Work?

YES _____ NO ______ If YES list all substitutions that you propose for products that have been specified by one or more manufacturer’s name and/or number. Please print in black ink or type in the spaces provided. Attach additional sheets if necessary.

Bidders are warned that proposed substitutions listed may affect Owner’s acceptance of the Bid and decision to award Contract. Further substitutions may be requested by Contractor after the effective date of the Agreement in accordance with Article 11 of the Instructions to Bidders.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

END OF SECTION 004325
Based on NYS M/WBE requirements subcontractors will be required for this project. Please list the name and address of all Subcontractors that you propose to use on this Contract and the Work assigned to each. Please include a percentage of work each subcontractor will perform. Please print in black ink or type in the spaces provided. Attach additional sheets if necessary.

This identification of subcontractors is required of all Bidders as part of their Bid and is in partial fulfillment of requirements in Article 12 of the Instructions to Bidders. Additional data on proposed Subcontractors may be requested from Bidders after the Bid Opening in accordance with Article 18.

The list of Subcontractors below shall indicate whether or not the subcontractor is a certified Woman or Minority Owned Business in New York State.

<table>
<thead>
<tr>
<th>Sub-Contractor</th>
<th>Work Assigned (with %)</th>
<th>Certified WMBE</th>
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<tbody>
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END OF SECTION
SECTION 004513

QUALIFICATIONS STATEMENT

THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT PERMITTED BY LAWS AND REGULATIONS

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

<table>
<thead>
<tr>
<th>Legal Name of Business:</th>
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<tbody>
<tr>
<td>Corporate Office</td>
</tr>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Phone number:</td>
</tr>
<tr>
<td>Title:</td>
</tr>
<tr>
<td>Email address:</td>
</tr>
<tr>
<td>Business address of corporate office:</td>
</tr>
<tr>
<td>Local Office</td>
</tr>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Phone number:</td>
</tr>
<tr>
<td>Title:</td>
</tr>
<tr>
<td>Email address:</td>
</tr>
<tr>
<td>Business address of local office:</td>
</tr>
</tbody>
</table>

1.02 Provide information on the Business’s organizational structure:

<table>
<thead>
<tr>
<th>Form of Business:</th>
<th>□ Sole Proprietorship □ Partnership □ Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Limited Liability Company □ Joint Venture comprised of the following companies:</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

Provide a separate Qualification Statement for each Joint Venturer.

<table>
<thead>
<tr>
<th>Date Business was formed:</th>
<th>State in which Business was formed:</th>
</tr>
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<tbody>
<tr>
<td>Is this Business authorized to operate in the Project location?</td>
<td>□ Yes □ No □ Pending</td>
</tr>
</tbody>
</table>

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EJCDC C-451, Qualifications Statement.
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Page 1 of 7
1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

<table>
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<th>Name of business:</th>
<th>Affiliation:</th>
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<td>Name of business:</td>
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1.04 Provide information regarding the Business’s officers, partners, and limits of authority.

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<thead>
<tr>
<th>Name:</th>
<th>Title:</th>
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<tbody>
<tr>
<td>Authorized to sign contracts: ☐ Yes ☐ No</td>
<td>Limit of Authority: $</td>
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<td>Name:</td>
<td>Title:</td>
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<tr>
<td>Authorized to sign contracts: ☐ Yes ☐ No</td>
<td>Limit of Authority: $</td>
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<tr>
<td>Name:</td>
<td>Title:</td>
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<tr>
<td>Authorized to sign contracts: ☐ Yes ☐ No</td>
<td>Limit of Authority: $</td>
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</table>

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

<table>
<thead>
<tr>
<th>Name of License:</th>
<th>Licensing Agency:</th>
<th>License No:</th>
<th>Expiration Date:</th>
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</thead>
<tbody>
<tr>
<td>Name of License:</td>
<td>Licensing Agency:</td>
<td>License No:</td>
<td>Expiration Date:</td>
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ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business’s Diverse Business Certification, if any. Provide evidence of current certification.

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<thead>
<tr>
<th>Certification</th>
<th>Certifying Agency</th>
<th>Certification Date</th>
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<tbody>
<tr>
<td>☐ Disadvantaged Business Enterprise</td>
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<td>☐ Minority Business Enterprise</td>
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<tr>
<td>☐ Woman-Owned Business Enterprise</td>
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</table>
☐ Small Business Enterprise
☐ Disabled Business Enterprise
☐ Veteran-Owned Business Enterprise
☐ Service-Disabled Veteran-Owned Business
☐ HUBZone Business (Historically Underutilized) Business
☐ Other
☐ None

ARTICLE 4—SAFETY

4.01 Provide information regarding Business’s safety organization and safety performance.

Name of Business’s Safety Officer:

<table>
<thead>
<tr>
<th>Certification Name</th>
<th>Issuing Agency</th>
<th>Expiration</th>
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</table>

4.02 Provide Worker’s Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

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<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>EMR</th>
<th>TRF R</th>
<th>MH</th>
<th>EMR</th>
<th>TRF R</th>
<th>MH</th>
<th>EMR</th>
<th>TRF R</th>
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ARTICLE 5—FINANCIAL

5.01 Provide information regarding the Business’s financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:

Business address:

Date of Business’s most recent financial statement: ☐ Attached
Date of Business’s most recent audited financial statement: □ Attached

Financial indicators from the most recent financial statement

Contractor’s Current Ratio (Current Assets ÷ Current Liabilities)

Contractor’s Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:

Surety is a corporation organized and existing under the laws of the state of:

Is surety authorized to provide surety bonds in the Project location? □ Yes □ No

Is surety listed in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? □ Yes □ No

Mailing Address (principal place of business):

Physical Address (principal place of business):

Phone (main): Phone (claims):

ARTICLE 7—INSURANCE

7.01 Provide information regarding Business’s insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):

<table>
<thead>
<tr>
<th>Insurance Provider</th>
<th>Type of Policy (Coverage Provided)</th>
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Are providers licensed or authorized to issue policies in the Project location? □ Yes □ No

Does provider have an A.M. Best Rating of A-VII or better? □ Yes □ No

Mailing Address (principal place of business):
Physical Address (principal place of business):

Phone (main): Phone (claims):

ARTICLE 8—CONSTRUCTION EXPERIENCE

8.01 Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:
Estimate of revenue for the current year:
Estimate of revenue for the previous year:

8.02 Provide information regarding the Business’s previous contracting experience.

Years of experience with projects like the proposed project:

| As a general contractor: | As a joint venturer: |

Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:

- Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No
- Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No
- Been released from a bid in the past 5 years? ☐ Yes ☐ No
- Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☐ No
- Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☐ No
- Been a party to any currently pending litigation or arbitration? ☐ Yes ☐ No
- Provide full details in a separate attachment if the response to any of these questions is Yes.

8.03 List all projects currently under contract in Schedule A and provide indicated information.

8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business’s experience with projects similar in type and cost of construction.

8.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the
Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business’s key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

9.01 Provide the following information with the Statement of Qualifications:

A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.
B. Diverse Business Certifications if required by Paragraph 3.01.
C. Certification of Business’s safety performance if required by Paragraph 4.02.
D. Financial statements as required by Paragraph 5.01.
E. Attachments providing additional information as required by Paragraph 8.02.
F. Schedule A (Current Projects) as required by Paragraph 8.03.
G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
I. Additional items as pertinent.
This Statement of Qualifications is offered by:

Business: ____________________________________________ (typed or printed name of organization)

By: ________________________________________________ (individual’s signature)

Name: ______________________________________________ (typed or printed)

Title: ______________________________________________ (typed or printed)

Date: ______________________________________________ (date signed)

(If Business is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: ____________________________________________ (individual’s signature)

Name: ______________________________________________ (typed or printed)

Title: ______________________________________________ (typed or printed)

Address for giving notices:

____________________________________________________

____________________________________________________

Designated Representative:

Name: ______________________________________________ (typed or printed)

Title: ______________________________________________ (typed or printed)

Address: ____________________________________________ (typed or printed)

Phone: ______________________________________________

Email: ______________________________________________
<table>
<thead>
<tr>
<th>Project Owner</th>
<th>Project Name</th>
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<tr>
<td>General Description of Project</td>
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<td>Project Cost</td>
<td>Date Project</td>
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<tr>
<th>Key Project Personnel</th>
<th>Project Manager</th>
<th>Project Superintendent</th>
<th>Safety Manager</th>
<th>Quality Control Manager</th>
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<td>Name</td>
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Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)

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<thead>
<tr>
<th>Project Role</th>
<th>Name</th>
<th>Title/Position</th>
<th>Organization</th>
<th>Telephone</th>
<th>Email</th>
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Schedule B—Previous Experience with Similar Projects

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<th>Project Owner</th>
<th>Project Name</th>
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<td>General Description of Project</td>
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<td>Project Cost</td>
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<td>Key Project Personnel</td>
<td>Project Manager</td>
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<td>Name</td>
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<td>Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)</td>
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## Schedule B—Previous Experience with Similar Projects

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<th>Project Owner</th>
<th>Project Name</th>
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<tr>
<td>General Description of Project</td>
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<tr>
<td>Project Cost</td>
<td>Date Project</td>
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<tr>
<td>Key Project Personnel</td>
<td>Project Manager</td>
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<td>Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)</td>
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<td>Project Role</td>
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<td>Project Role</td>
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### Schedule C—Key Individuals

#### Project Manager

<table>
<thead>
<tr>
<th>Name of individual</th>
<th>Years of experience as project manager</th>
<th>Years of experience with this organization</th>
<th>Number of similar projects as project manager</th>
<th>Number of similar projects in other positions</th>
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#### Current Project Assignments

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<tr>
<th>Name of assignment</th>
<th>Percent of time used for this project</th>
<th>Estimated project completion date</th>
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#### Project Superintendent

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<th>Name of individual</th>
<th>Years of experience as project superintendent</th>
<th>Years of experience with this organization</th>
<th>Number of similar projects as project superintendent</th>
<th>Number of similar projects in other positions</th>
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#### Safety Manager

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<td>Years of experience as project superintendent</td>
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SECTION 004519

NON-COLLUSIVE AFFIDAVIT
(Required by Section 103-d of the General Municipal Law)

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor, and,

3. No attempt has been made, or will be made, by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

B. A bid shall not be considered for award nor shall any award be made where (A), (1), (2), and (3) above have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certificating, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (A), (1), (2), and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made or his designee, determined that such disclosure was not made for the purpose of restricting competition.

C. The fact that the bidder (A) has published price lists, rates or tariffs governing items being procured, (B) has informed prospective customers or proposed or pending publication of new or revised price lists for such items (C) has sold the same item to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning subparagraph (A) (1).

D. Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or state services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one (1) of this section, shall be deemed to have authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

Name of Firm: __________________________

Signed by: __________________________

Title: __________________________

Date: __________________________
RESOLUTION AUTHORIZING SUBMISSION OF BIDS BY CORPORATION AND EXECUTION OF NON-COLLUSION CERTIFICATE AND WAIVER OF IMMUNITY CLAUSE

Resolves that ________________________ be authorized to sign and submit the bid or proposal of this corporation for ________________________ Erie Canalway Heritage Fund, and to include in such bid or proposal the certificate as to non-collusion and waiver of immunity clause required by Section 103 of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatement in such certificate this corporate bidder shall be liable under penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by ________________________ Corporation at a meeting of its board of directors held on the __________ day of __________, 2021.

(SEAL OF THE CORPORATION)

______________________
Signature of Secretary

---------------------------------------------------------------

INDIVIDUAL EXECUTION OF NON-COLLUSION CERTIFICATE AND WAIVER OF IMMUNITY CLAUSE

I, ________________________ hereby sign and submit this proposal for ________________________ Erie Canalway Heritage Fund, and to include in such bid or proposal the certificate as to non-collusion and waiver of immunity clause required by Section 103 of the General Municipal Law as the act and deed of this individual, and for any inaccuracies or misstatement in such certificate this corporate bidder shall be liable under penalties of perjury.

______________________
Signature of Individual

______________________
Date

END OF SECTION
SECTION 005100
NOTICE OF AWARD

Date of Issuance: 
Owner: Erie Canalway Heritage Fund, Inc. Owner’s Project No.: 
Designer: Labella Associates/MJ Designer’s Project No.: 2240575 
Project: Matton Shipyard Pre-Development Phase 2 
Contract Name: Contact No. 1 – Soil Remediation and Shoreline Restoration 
Bidder: 
Bidder’s Address: 

You are notified that Owner has accepted your Bid dated [_____________] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

**Matton Shipyard Pre-Development Phase 2**

The Contract Price of the awarded Contract is $[_____________]. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

**Three (3) unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.**

☐ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner [three] counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: Erie Canalway Heritage Fund, Inc.– Bob Radcliff

By (signature): 
Name (printed): 
Title: 
Copy: Engineer/Architect
SECTION 005200
AGREEMENT BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between the Erie Canalway Heritage Fund, Inc. (“Owner”) and [________] (“Contractor”).

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions. Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

   Project includes mobilization, removal and disposal of contaminated soils, installation of a stone parking area, sediment and erosion control including waterfront measures and turbidity curtain, selective demolition and removal or shoreline structures and debris, cut and fill of onsite soils, import of fill and finished grading, installation of timber piling wall, installation of vegetative shoreline, general stabilization and restoration.

   This property has been determined to possess historic (e.g., architectural, engineering, artistic) significance and is listed in the National Register of Historic Places. The contractor shall recognize that all aspects of the property may potentially contribute to this significance and the contractor shall not judge the relative significance of any features nor the impact of any or all proposed work; this responsibility shall rest solely with the architect. Consequently, no deviations from the contract documents shall be performed and no features or materials shall be altered, removed, reused, or taken from the premises, without the written approval of the architect as being consistent with the requirements of the contract documents. All work shall be consistent with The Secretary of the Interior’s Standards for the Treatment of Historic Properties.

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Erie Canalway Heritage Fund, Inc.

ARTICLE 3—ENGINEER

3.01 The Owner has retained LaBella Associates (“Engineer”) to act as Owner’s Representative, assume all duties and responsibilities of Engineer/Architect, and have the rights and authority assigned to Engineer/Architect in the Contract.

3.02 The part of the Project that pertains to the Work has been designed by the Engineer/Architect.

ARTICLE 4—CONTRACT TIMES

4.01 Time is of the Essence

   A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Contract Times: Dates
A. The Work will be substantially complete on or before **November 29, 2024**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **June 27, 2025**.

4.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. **Substantial Completion**: Contractor shall pay Owner $250.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.

2. **Completion of Remaining Work**: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $500.00 for each day that expires after such time until the Work is completed and ready for final payment.

4. Liquidated damages for failing to timely attain Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner’s sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

**ARTICLE 5—CONTRACT PRICE**

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

A. For all Work, at the prices stated in Contractor’s Bid, attached hereto as an exhibit.

**ARTICLE 6—PAYMENT PROCEDURES**

6.01 Submittal and Processing of Payments

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

A. Owner shall make progress payments on the basis of Contractor’s Applications for Payment on or about the 5th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
   a. 95 percent of the value of the Work completed (with the balance being retainage).
   b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer’s estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 Final Payment
   A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 Consent of Surety
   A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

ARTICLE 7—CONTRACT DOCUMENTS

7.01 Contents
   A. The Contract Documents consist of all of the following:
      1. This Agreement.
      2. Bonds:
         a. Performance bond (together with power of attorney).
         b. Payment bond (together with power of attorney).
      3. General Conditions.
      4. Supplementary Conditions.
      5. Specifications as listed in the table of contents of the project manual (copy of list attached).
      7. Drawings listed on the attached sheet index.
      8. Addenda (numbers [ ] to [ ], inclusive).
      9. Exhibits to this Agreement (enumerated as follows):
         a. Contractor’s Bid (pages____ to____, inclusive).
      10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
          a. Notice to Proceed.
          b. Work Change Directives/Field Orders.
          c. Change Orders.
B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 7.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 Contractor’s Representations

A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:

1. Contractor has examined and carefully studied the Contract Documents, including Addenda. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

2. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

3. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor’s safety precautions and programs.

4. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

5. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

6. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

7. Contractor’s entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 Contractor’s Certifications

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:

1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to
establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 Standard General Conditions

A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

ARTICLE 9—MISCELLANEOUS

9.01 Terms

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

9.02 Assignment of Contract

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.
This Agreement will be effective on [______________] (which is the Effective Date of the Contract).

Owner:

___________________________________________________________
(typed or printed name of organization)

By: _______________________________________________________
(individual’s signature)

Date: _____________________________________________________
(date signed)

Name: _____________________________________________________
(typed or printed)

Title: _____________________________________________________
(typed or printed)

Attest: ____________________________________________________
(individual’s signature)

Title: _____________________________________________________
(typed or printed)

Address for giving notices:

___________________________________________________________

___________________________________________________________

Designated Representative:

Name: _____________________________________________________
(typed or printed)

Title: _____________________________________________________
(typed or printed)

Address:

___________________________________________________________

Phone: ____________________________________________________

Email: ____________________________________________________

Contractor:

___________________________________________________________
(typed or printed name of organization)

By: _______________________________________________________
(individual’s signature)

Date: _____________________________________________________
(date signed)

Name: _____________________________________________________
(typed or printed)

Title: _____________________________________________________
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Attest: ____________________________________________________
(individual’s signature)

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___________________________________________________________

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Designated Representative:

Name: _____________________________________________________
(typed or printed)

Title: _____________________________________________________
(typed or printed)

Address:

___________________________________________________________

Phone: ____________________________________________________

Email: ____________________________________________________

License No.: _____________________________________________
(where applicable)

State: ____________________________________________________

(If Entity is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

(If Entity is a corporation, attach evidence of authority to sign. If Entity is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)
SECTION 005500

NOTICE TO PROCEED

Owner: Erie Canalway Heritage Fund, Inc. Owner’s Project No.: ______________________

Designer: Labella Associates/MJ Engineer’s Project No.: 2240575

Contractor: ______________________ Contractor’s Project No.: ________________

Project: Matton Shipyard Pre-Development Phase 2

Contract Name: Soil Remediation and Shoreline Stabilization

Effective Date of Contract: ______________________

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on __________, pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

   The date by which Substantial Completion must be achieved is November 29, 2024, and the date by whichreadiness for final payment must be achieved is June 27, 2025.

Designer: ______________________

By (signature): ______________________

Name (printed): ______________________

Title: ______________________

Date Issued: ______________________

Copy: Owner
### PERFORMANCE BOND

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<tr>
<th><strong>Contractor</strong></th>
<th><strong>Surety</strong></th>
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<td><strong>Description (name and location):</strong> Matton Shipyard Pre-Development</td>
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<td><strong>Mailing address (principal place of business):</strong> 1 Delaware Avenue Cohoes, NY 12047</td>
<td><strong>Contract Price:</strong></td>
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**Bond**

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<td>☐ None ☐ See Paragraph 16</td>
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Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

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**Notes:** (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.
1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety’s obligation under this Bond will arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor’s performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner’s notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety’s receipt of the Owner’s notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner’s right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety’s obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety’s expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2. additional legal, design professional, and delay costs resulting from the Contractor’s Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety’s liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.

12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such
statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

16. Modifications to this Bond are as follows:
### SECTION 006113.16
**PAYMENT BOND**

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Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

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**Notes:** (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.
1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety’s obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner’s property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety’s expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety’s obligations to a Claimant under this Bond will arise after the following:

   5.1. Claimants who do not have a direct contract with the Contractor

      5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

      5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant’s obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety’s expense take the following actions:

   7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2. Pay or arrange for payment of any undisputed amounts.

   7.3. The Surety’s failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney’s fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety’s total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney’s fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner’s priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1. Claim—A written statement by the Claimant including at a minimum:

16.1.1. The name of the Claimant;

16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;

16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;

16.1.4. A brief description of the labor, materials, or equipment furnished;

16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;

16.1.7. The total amount of previous payments received by the Claimant; and

16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2. Claimant—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic’s lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of “labor, materials, or equipment” that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor’s subcontractors, and all other items for which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3. Construction Contract—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4. Owner Default—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5. Contract Documents—All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

18. Modifications to this Bond are as follows:
## Contractor's Application for Payment

**Owner:** Erie Canalway Heritage Fund, Inc.  
**Owner's Project No.:**  
**Engineer:** Labella Associates/MJ  
**Engineer's Project No.:** 2240575  
**Contractor:**  
**Contractor's Project No.:**  
**Project:** Matton Shipyard Pre-Development Phase 2  
**Contract:** Soil Remediation and Shoreline Stabilization

### Application No.:  
**Application Date:**  
**Application Period:** From _______ to _______

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<td>2. Net change by Change Orders</td>
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| 4. Total Work completed and materials stored to date  
(Sum of Column G Lump Sum Total and Column J Unit Price Total) | $ | - |
| 5. Retainage  
a. | $ | - | Work Completed |
| b. | $ | - | Stored Materials |
| c. Total Retainage (Line 5.a + Line 5.b) | $ | - |
| 6. Amount eligible to date (Line 4 - Line 5.c) | $ | - |
| 7. Less previous payments (Line 6 from prior application) | $ | - |
| 8. Amount due this application | $ | - |
| 9. Balance to finish, including retainage (Line 3 - Line 4) | $ | - |

### Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

1. All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor’s legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
2. Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
3. All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

**Contractor:**  
**Signature:**  
**Date:**

**Recommended by Engineer**  
**Approved by Owner**

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**Approved by Funding Agency**

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SECTION 006516

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: Erie Canalway Heritage Fund, Inc.  Owner’s Project No.:  
Engineer: Labella Associates/MJ  Engineer’s Project No.: 2240575  
Contractor:  
Project: Matton Shipyard Pre-Development Phase 2  
Contract Name: Soil Remediation and Shoreline Stabilization

This ☐ Preliminary ☐ Final Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

[Describe the portion of the work for which Certificate of Substantial Completion is issued]

Date of Substantial Completion: [_______________]

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner’s Responsibilities: ☐ None ☐ As follows:

[List amendments to Owner’s Responsibilities]

Amendments to Contractor’s Responsibilities: ☐ None ☐ As follows:

[List amendments to Contractor’s Responsibilities]

The following documents are attached to and made a part of this Certificate:

[List attachments such as punch list; other documents]

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer/Architect

By (signature): 

Name (printed): 

Title: 

EJCDC® C-625, Certificate of Substantial Completion.  
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SECTION 007200

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term’s singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. Addenda—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. Agreement—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. Application for Payment—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Bid—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. Bidder—An individual or entity that submits a Bid to Owner.

6. Bidding Documents—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. Bidding Requirements—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. Change Order—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. Change Proposal—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. Claim

a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer’s decision regarding a Change Proposal;
seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer’s decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.

d. A demand for money or services by a third party is not a Claim.

11. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. Contract—The entire and integrated written contract between Owner and Contractor concerning the Work.

13. Contract Documents—Those items so designated in the Agreement, and which together comprise the Contract.

14. Contract Price—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. Contract Times—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. Contractor—The individual or entity with which Owner has contracted for performance of the Work.

17. Cost of the Work—See Paragraph 13.01 for definition.

18. Drawings—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. Effective Date of the Contract—The date, indicated in the Agreement, on which the Contract becomes effective.

20. Electronic Document—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

21. Electronic Means—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook,
Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. **Engineer**—The individual or entity named as such in the Agreement.

23. **Field Order**—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

24. **Hazardous Environmental Condition**—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
   a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
   b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
   c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

25. **Laws and Regulations; Laws or Regulations**—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. **Liens**—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

27. **Milestone**—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.

28. **Notice of Award**—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.

29. **Notice to Proceed**—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. **Owner**—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

31. **Progress Schedule**—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor’s plan to accomplish the Work within the Contract Times.

32. **Project**—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. **Resident Project Representative**—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. **Samples**—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

35. **Schedule of Submittals**—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.

36. **Schedule of Values**—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.

37. **Shop Drawings**—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

38. **Site**—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.

39. **Specifications**—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

40. **Subcontractor**—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

41. **Submittal**—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. **Substantial Completion**—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

43. **Successful Bidder**—The Bidder to which the Owner makes an award of contract.

44. **Supplementary Conditions**—The part of the Contract that amends or supplements these General Conditions.

45. **Supplier**—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. Technical Data

a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.

b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.

c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

47. Underground Facilities—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. Unit Price Work—Work to be paid for on the basis of unit prices.

49. Work—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. Work Change Directive—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. Intent of Certain Terms or Adjectives: The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in
general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. Day: The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective: The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

1. does not conform to the Contract Documents;
2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).

E. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Contract Price or Contract Times: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.

G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.
ARTICLE 2—PRELIMINARY MATTERS

2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance

A. Performance and Payment Bonds: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).

B. Evidence of Contractor’s Insurance: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.

C. Evidence of Owner’s Insurance: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

A. Preliminary Schedules: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 Preconstruction Conference; Designation of Authorized Representatives

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor’s full responsibility therefor.

2. Contractor’s Schedule of Submittals will be acceptable to Engineer if it provides an workable arrangement for reviewing and processing the required submittals.

3. Contractor’s Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 Electronic Transmittals

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient’s use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or

2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. Contractor’s Verification of Figures and Field Measurements: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

2. Contractor’s Review of Contract Documents: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or
Requirements of the Contract Documents

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer’s written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 Reuse of Documents

A. Contractor and its Subcontractors and Suppliers shall not:

1. 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 its consultants, including electronic media versions, or reuse any such Drawings,
Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner’s express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times: Notice to Proceed

A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 Reference Points

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer’s judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument 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 or property monuments by professionally qualified personnel.

4.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.
4.05  Delays in Contractor’s Progress

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor’s performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor’s sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
2. Abnormal weather conditions;
3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
4. Acts of war or terrorism.

D. Contractor’s entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;
2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
4. The number of days’ increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07. 

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor’s operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or
occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor’s performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. Removal of Debris During Performance of the Work: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading of Structures: 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 structures or land to stresses or pressures that will endanger them.

5.03 Subsurface and Physical Conditions

A. Reports and Drawings: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;

2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and

3. Technical Data contained in such reports and drawings.

B. Underground Facilities: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

C. Reliance by Contractor on Technical Data: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

D. Limitations of Other Data and Documents: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their...
officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner’s archival documents concerning the Site; or

4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 **Differing Subsurface or Physical Conditions**

A. **Notice by Contractor:** If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;

2. is of such a nature as to require a change in the Drawings or Specifications;

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical condition or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. **Engineer’s Review:** After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor’s resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer’s findings, conclusions, and recommendations.

C. **Owner’s Statement to Contractor Regarding Site Condition:** After receipt of Engineer’s written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer’s written findings, conclusions, and recommendations, in whole or in part.
D. Early Resumption of Work: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer’s review or Owner’s issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

E. Possible Price and Times Adjustments

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
   a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
   b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
   c. Contractor’s entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
   a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
   b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor’s making such commitment; or
   c. Contractor failed to give the written notice required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor’s entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner’s issuance of the Owner’s written statement to Contractor regarding the subsurface or physical condition in question.

F. Underground Facilities; Hazardous Environmental Conditions: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.
5.05 Underground Facilities

A. Contractor’s Responsibilities: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:

1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
2. complying with applicable state and local utility damage prevention Laws and Regulations;
3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. Notice by Contractor: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.

C. Engineer’s Review: Engineer will:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor’s resumption of Work in connection with the Underground Facility in question;
3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
4. advise Owner in writing of Engineer’s findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. Owner’s Statement to Contractor Regarding Underground Facility: After receipt of Engineer’s written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer’s written findings, conclusions, and recommendations in whole or in part.

E. Early Resumption of Work: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer’s review or Owner’s issuance of its statement to Contractor, because the Underground Facility in question and
conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. Possible Price and Times Adjustments

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

   b. Contractor’s entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and

   c. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor’s entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner’s issuance of the Owner’s written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor’s remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 Hazardous Environmental Conditions at Site

A. Reports and Drawings: The Supplementary Conditions identify:

   1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;

   2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

   3. Technical Data contained in such reports and drawings.

B. Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of
their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner’s written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special
conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.

C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies”
as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.

E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.

F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.

G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.

H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 Insurance—General Provisions

A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party’s full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party’s obligation to obtain and maintain such insurance.

G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner’s option, may purchase and maintain Owner’s own liability insurance. Owner’s liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner’s liability policies for any of Contractor’s obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker’s compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor’s liability policies) on each Subcontractor’s commercial general liability insurance policy; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

J. If Contractor has failed to obtain and maintain required insurance, Contractor’s entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner’s termination rights under Article 16.

K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party’s interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor’s interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.

M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor’s liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor’s Insurance

A. Required Insurance: Contractor shall purchase and maintain Worker’s Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

B. General Provisions: The policies of insurance required by this Paragraph 6.03 as supplemented must:

1. include at least the specific coverages required;
2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
5. include all necessary endorsements to support the stated requirements.

C. Additional Insureds: The Contractor’s commercial general liability, automobile liability, employer’s liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:

1. include and list as additional insureds Owner, New York State Office of Parks Recreation & Historic Preservation, Architect, and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor’s acts or omissions, or the acts and omissions of those working on Contractor’s behalf, in the performance of Contractor’s operations.

6.04 Builder’s Risk and Other Property Insurance

A. Builder’s Risk: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder’s risk insurance upon the Work on a completed value basis, in the amount of the Work’s full insurable replacement cost (subject to such deductible amounts.
as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder’s risk insurance are set forth in the Supplementary Conditions.

B. Property Insurance for Facilities of Owner Where Work Will Occur: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder’s risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

C. Property Insurance for Substantially Complete Facilities: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder’s risk insurance. The builder’s risk insurance may terminate upon written confirmation of Owner’s procurement of such property insurance.

D. Partial Occupancy or Use by Owner: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder’s risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder’s risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

E. Insurance of Other Property; Additional Insurance: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder’s risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor’s expense.

6.05 Property Losses; Subrogation

A. The builder’s risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder’s risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner’s existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer’s rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner’s property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder’s risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 Receipt and Application of Property Insurance Proceeds

A. Any insured loss under the builder’s risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder’s risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR’S RESPONSIBILITIES

7.01 Contractor’s Means and Methods of Construction

A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor’s responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor’s expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor’s determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

A. Contractor shall supervise, inspect, and direct the Work 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.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 Labor; Working Hours

A. 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 maintain good discipline and order at the Site.

B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor’s employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor’s own acts and omissions.

C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

7.04 Services, Materials, and Equipment

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 “Or Equals”

A. Contractor’s Request; Governing Criteria: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or equal” item is permitted, Contractor mayrequest that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an “or equal” item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
   a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
      3) has a proven record of performance and availability of responsive service; and
      4) is not objectionable to Owner.
   b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
      1) there will be no increase in cost to the Owner or increase in Contract Times; and
      2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. Contractor’s Expense: Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.

C. Engineer’s Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-equal” item will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an “or-equal,” which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
D. *Effect of Engineer’s Determination:* Neither approval nor denial of an “or-equal” request will result in any change in Contract Price. The Engineer’s denial of an “or-equal” request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

E. *Treatment as a Substitution Request:* If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

A. *Contractor’s Request; Governing Criteria:* Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:

   a. will certify that the proposed substitute item will:

      1) perform adequately the functions and achieve the results called for by the general design;

      2) be similar in substance to the item specified; and

      3) be suited to the same use as the item specified.

   b. will state:

      1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

      2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

      3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

   c. will identify:

      1) all variations of the proposed substitute item from the item specified; and

      2) available engineering, sales, maintenance, repair, and replacement services.
d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. **Engineer’s Evaluation and Determination**: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer’s determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. **Special Guarantee**: Owner may require Contractor to furnish at Contractor’s expense a special performance guarantee or other surety with respect to any substitute.

D. **Reimbursement of Engineer’s Cost**: Contractor will record Engineer’s costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. **Contractor’s Expense**: Contractor shall provide all data in support of any proposed substitute at Contractor’s expense.

F. **Effect of Engineer’s Determination**: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer’s denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

### 7.07 Concerning Subcontractors and Suppliers

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor’s retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor’s obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor’s Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such
proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner’s requirement of replacement.

G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.

J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.

K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.

L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 **Patent Fees and Royalties**

A. 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, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents,
consultants, and subcontractors, from and against all claims, costs, losses, and damages
(including but not limited to all fees and charges of engineers, architects, attorneys, and other
professionals, and all court or arbitration or other dispute resolution costs) arising out of or
relating to any infringement of patent rights or copyrights incident to the use in the performance
of the Work or resulting from the incorporation in the Work of any invention, design, process,
product, or device specified in the Contract Documents, but not identified as being subject to
payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold
harmless Owner and Engineer, and the officers, directors, members, partners, employees,
agents, consultants and subcontractors of each and any of them, from and against all claims,
costs, losses, and damages (including but not limited to all fees and charges of engineers,
architects, attorneys, and other professionals and all court or arbitration or other dispute
resolution costs) arising out of or relating to any infringement of patent rights or copyrights
incident to the use in the performance of the Work or resulting from the incorporation in the
Work of any invention, design, process, product, or device not specified in the Contract
Documents.

7.09 Permits
A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all
construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor,
when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental
charges and inspection fees necessary for the prosecution of the Work which are applicable at
the time of the submission of Contractor’s Bid (or when Contractor became bound under a
negotiated contract). Owner shall pay all charges of utility owners for connections for providing
permanent service to the Work.

7.10 Taxes
A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by
Contractor in accordance with the Laws and Regulations of the place of the Project which are
applicable during the performance of the Work.

7.11 Laws and Regulations
A. Contractor shall give all notices required by and shall comply with all Laws and Regulations
applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible
for monitoring Contractor’s compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know
that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses,
and shall indemnify and hold harmless Owner and Engineer, and the officers, directors,
members, partners, employees, agents, consultants, and subcontractors of each and any of them,
from and against all claims, costs, losses, and damages (including but not limited to all fees and
charges of engineers, architects, attorneys, and other professionals and all court or arbitration
or other dispute resolution costs) arising out of or relating to such Work or other action. It is
not Contractor’s responsibility to make certain that the Work described in the Contract
Documents is in accordance with Laws and Regulations, but this does not relieve Contractor
of its obligations under Paragraph 3.03.

C. Owner or Contractor may give written notice to the other party of any changes after the
submission of Contractor’s Bid (or after the date when Contractor became bound under a
negotiated contract) in Laws or Regulations having an effect on the cost or time of performance
of the Work, including but not limited to changes in Laws or Regulations having an effect on
procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other
contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

G. Contractor shall comply with the applicable requirements of Owner’s safety programs, if any. Any Owner’s safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor’s safety program with which Owner’s and Engineer’s employees and representatives must comply while at the Site.

I. Contractor’s duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

J. Contractor’s duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor’s response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor’s response, a Work Change Directive or Change Order will be issued.

7.16 Submittals

A. Shop Drawing and Sample Requirements

1. Before submitting a Shop Drawing or Sample, Contractor shall:
   a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
   b. determine and verify:
      1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
      2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
3) all information relative to Contractor’s responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;

c. confirm that the Submittal is complete with respect to all related data included in the Submittal.

2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor’s obligations under the Contract Documents with respect to Contractor’s review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. Submittal Procedures for Shop Drawings and Samples: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. Shop Drawings
   a. Contractor shall submit the number of copies required in the Specifications.
   b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. Samples
   a. Contractor shall submit the number of Samples required in the Specifications.
   b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer’s review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Engineer’s Review of Shop Drawings and Samples

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer’s review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer’s review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer’s review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer’s review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer’s review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer’s receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.

2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer’s time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer’s charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer’s charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
   a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
   b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
c. Engineer’s review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.

F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor’s General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor’s warranty and guarantee.

B. Owner’s rights under this warranty and guarantee are in addition to, and are not limited by, Owner’s rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and

2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.

C. Contractor’s warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

D. Contractor’s obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor’s obligation to perform the Work in accordance with the Contract Documents, or a release of Owner’s warranty and guarantee rights under this Paragraph 7.17:

1. Observations by Engineer;

2. Recommendation by Engineer or payment by Owner of any progress or final payment;

3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. Use or occupancy of the Work or any part thereof by Owner;

5. Any review and approval of a Shop Drawing or Sample submittal;

6. The issuance of a notice of acceptability by Engineer;

7. The end of the correction period established in Paragraph 15.08;
8. Any inspection, test, or approval by others; or
9. Any correction of defective Work by Owner.

E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor’s performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers’ compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.

B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.

C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor’s design professional when submitted by Contractor to Engineer.

D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals.
retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

E. Pursuant to this Paragraph 7.19, Engineer’s review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:

1. Checking for conformance with the requirements of this Paragraph 7.19;
2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.

F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.

G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 Other Work

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner’s employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner’s employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner’s employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others’ work with the written consent of Engineer and the others whose work will be affected.

E. If the proper execution or results of any part of Contractor’s Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor’s Work. Contractor’s failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor’s Work except for latent defects and deficiencies in such other work.
F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 Coordination

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner’s employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and

3. The extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner’s employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor’s rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor’s entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner’s contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.

2. When Owner is performing other work at or adjacent to the Site with Owner’s employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable
direct delay, disruption, and interference costs incurred by Owner as a result of Contractor’s failure to take reasonable and customary measures with respect to Owner’s other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor’s failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor’s actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER’S RESPONSIBILITIES

9.01 Communications to Contractor
   A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Engineer
   A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer’s status under the Contract Documents will be that of the former Engineer.

9.03 Furnish Data
   A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 Pay When Due
   A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings
   A. Owner’s duties with respect to providing lands and easements are set forth in Paragraph 5.01.
   B. Owner’s duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
   C. Article 5 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance
   A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
9.07  Change Orders
   A. Owner’s responsibilities with respect to Change Orders are set forth in Article 11.

9.08  Inspections, Tests, and Approvals
   A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in
      Paragraph 14.02.B.

9.09  Limitations on Owner’s Responsibilities
   A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for,
      Contractor’s means, methods, techniques, sequences, or procedures of construction, or the
      safety precautions and programs incident thereto, or for any failure of Contractor to comply
      with Laws and Regulations applicable to the performance of the Work. Owner will not be
      responsible for Contractor’s failure to perform the Work in accordance with the Contract
      Documents.

9.10  Undisclosed Hazardous Environmental Condition
   A. Owner’s responsibility in respect to an undisclosed Hazardous Environmental Condition is set
      forth in Paragraph 5.06.

9.11  Evidence of Financial Arrangements
   A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial
      arrangements have been made to satisfy Owner’s obligations under the Contract (including
      obligations under proposed changes in the Work).

9.12  Safety Programs
   A. While at the Site, Owner’s employees and representatives shall comply with the specific
      applicable requirements of Contractor’s safety programs of which Owner has been informed.
   B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

10.01  Owner’s Representative
   A. Engineer will be Owner’s representative during the construction period. The duties and
      responsibilities and the limitations of authority of Engineer as Owner’s representative during
      construction are set forth in the Contract.

10.02  Visits to Site
   A. Engineer will make visits to the Site at intervals appropriate to the various stages of
      construction as Engineer deems necessary in order to observe, as an experienced and qualified
      design professional, the progress that has been made and the quality of the various aspects of
      Contractor’s executed Work. Based on information obtained during such visits and
      observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is
      proceeding in accordance with the Contract Documents. Engineer will not be required to make
      exhaustive or continuous inspections on the Site to check the quality or quantity of the Work.
      Engineer’s efforts will be directed toward providing for Owner a greater degree of confidence
      that the completed Work will conform generally to the Contract Documents. On the basis of
      such visits and observations, Engineer will keep Owner informed of the progress of the Work
      and will endeavor to guard Owner against defective Work.
B. Engineer’s visits and observations are subject to all the limitations on Engineer’s authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer’s visits or observations of Contractor’s Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Resident Project Representative

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.

B. If Owner designates an individual or entity who is not Engineer’s consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 Engineer’s Authority

A. Engineer has the authority to reject Work in accordance with Article 14.

B. Engineer’s authority as to Submittals is set forth in Paragraph 7.16.

C. Engineer’s authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner’s delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

D. Engineer’s authority as to changes in the Work is set forth in Article 11.

E. Engineer’s authority as to Applications for Payment is set forth in Article 15.

10.05 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer’s Authority and Responsibilities

A. Neither Engineer’s authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor’s failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer’s review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 Compliance with Safety Program

A. While at the Site, Engineer’s employees and representatives will comply with the specific applicable requirements of Owner’s and Contractor’s safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract

A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.

C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer’s recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 Change Orders

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner’s acceptance of defective Work under Paragraph 14.04 or Owner’s correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer’s recommendation if the change in the Work
involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 Work Change Directives

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive’s effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

B. If Owner has issued a Work Change Directive and:
   1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
   2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 Field Orders

A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.

B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 Owner- Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer’s recommendation.

B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease
construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.

C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor’s safety obligations under the Contract Documents or Laws and Regulations.

11.06 Unauthorized Changes in the Work

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor’s fee for overhead and profit (determined as provided in Paragraph 11.07.C).

C. Contractor’s Fee: When applicable, the Contractor’s fee for overhead and profit will be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor’s fee will be 15 percent;

   b. For costs incurred under Paragraph 13.01.B.3, the Contractor’s fee will be 5 percent;

   c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor’s fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such
subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and

f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor’s fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 Change of Contract Times

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.

B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 Change Proposals

A. Purpose and Content: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. Change Proposal Procedures

1. Submittal: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

2. Supporting Data: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.

   a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

   b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.
The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. **Engineer’s Initial Review**: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.

4. **Engineer’s Full Review and Action on the Change Proposal**: Upon receipt of Contractor’s supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor’s supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer’s inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. **Binding Decision**: Engineer’s decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. **Resolution of Certain Change Proposals**: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. **Post-Completion**: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 **Notification to Surety**

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor’s responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

**ARTICLE 12—CLAIMS**

12.01 **Claims**

A. **Claims Process**: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer’s decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and

4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. Submittal of Claim: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor’s knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. Review and Resolution: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

D. Mediation
   1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
   2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
   3. Owner and Contractor shall each pay one-half of the mediator’s fees and costs.

E. Partial Approval: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. Denial of Claim: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. Final and Binding Results: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a
Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

A. Purposes for Determination of Cost of the Work: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. Costs Included: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers’ compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers’ field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor’s Cost of the Work and fee will be determined in the same manner as Contractor’s Cost of the Work and fee as provided in this Paragraph 13.01.

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4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.

5. Other costs consisting of the following:
   a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor’s employees incurred in discharge of duties connected with the Work.
   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
      1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
   c. Construction Equipment Rental
      1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof no longer necessary for the Work.
      2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
      3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price (“changed Work”), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
   d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
   e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
   f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder’s risk or other property insurance established in accordance with
Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor’s fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. Costs Excluded: The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor’s officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor’s principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor’s fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.

3. Expenses of Contractor’s principal and branch offices other than Contractor’s office at the Site.

4. Any part of Contractor’s capital expenses, including interest on Contractor’s capital employed for the Work and charges against Contractor for delinquent payments.

5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

6. Expenses incurred in preparing and advancing Claims.

7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. Contractor’s Fee

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:

   a. Contractor’s fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

   b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor’s fee will be determined as follows:

      1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor’s fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. Documentation and Audit: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor’s accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor’s fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor’s costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.

C. Owner’s Contingency Allowance: Contractor agrees that an Owner’s contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor’s overhead and profit for each separately identified item.
D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer’s preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer’s written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. Adjustments in Unit Price
1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
   a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
   b. Contractor’s unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor’s costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work
A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor’s safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 Tests, Inspections, and Approvals
A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
2. to attain Owner’s and Engineer’s acceptance of materials or equipment to be incorporated in the Work;
3. by manufacturers of equipment furnished under the Contract Documents;
4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor’s purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor’s expense unless Contractor had given Engineer timely notice of Contractor’s intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

A. Contractor’s Obligation: It is Contractor’s obligation to assure that the Work is not defective.

B. Engineer’s Authority: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. Notice of Defects: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. Preservation of Warranties: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner’s special warranty and guarantee, if any, on said Work.

F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.
14.04 **Acceptance of Defective Work**

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer’s confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner’s evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 **Uncovering Work**

A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer’s observation, and then replace the covering, all at Contractor’s expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor’s full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 **Owner May Stop the Work**

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.
14.07 Owner May Correct Defective Work

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days’ written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor’s services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner’s representatives, agents and employees, Owner’s other contractors, and Engineer and Engineer’s consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor’s defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner’s rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

A. Basis for Progress Payments: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment 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.

2. 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 must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner’s request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner’s interest therein, all of which must be satisfactory to Owner.
3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor’s legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, 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.

2. Engineer’s recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer’s observations of the executed Work as an experienced and qualified design professional, and on Engineer’s review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer’s knowledge, information and belief:
   a. the Work has progressed to the point indicated;
   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
   c. the conditions precedent to Contractor’s being entitled to such payment appear to have been fulfilled in so far as it is Engineer’s responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer’s review of Contractor’s Work for the purposes of recommending payments nor Engineer’s recommendation of any payment, including final payment, will impose responsibility on Engineer:
   a. to supervise, direct, or control the Work;
   b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
   c. for Contractor’s failure to comply with Laws and Regulations applicable to Contractor’s performance of the Work;
d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer’s opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer’s opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer’s recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. Claims have been made against Owner based on Contractor’s conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor’s conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. The Work is defective, requiring correction or replacement;
g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. The Contract Price has been reduced by Change Orders;

i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;

j. Liquidated or other damages have accrued as a result of Contractor’s failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

l. Other items entitle Owner to a set-off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner’s refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 Contractor’s Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor’s notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete,
Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner’s objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner’s use or occupancy of the Work following Substantial Completion, review the builder’s risk insurance policy with respect to the end of the builder’s risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner’s use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor’s performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.

2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 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.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder’s risk or other property insurance.

15.05 Final Inspection

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

15.06 Final Payment

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.

2. The final Application for Payment must be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents;

b. consent of the surety, if any, to final payment;

c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

d. a list of all duly pending Change Proposals and Claims; and

e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner’s property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. Engineer’s Review of Final Application and Recommendation of Payment: If, on the basis of Engineer’s observation of the Work during construction and final inspection, and Engineer’s review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor’s other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer’s recommendation of final payment and present the final Application for Payment to Owner for
payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer’s opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment 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 for Payment.

C. Notice of Acceptability: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.

D. Completion of Work: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer’s written recommendation of final payment and issuance of notice of the acceptability of the Work.

E. Final Payment Becomes Due: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner’s receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 Correction Period

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor’s repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner’s written instructions:

1. correct the defective repairs to the Site or such adjacent areas;

2. correct such defective Work;

3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner’s written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor’s failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.

D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

F. Contractor’s obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor’s persistent failure 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);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor’s disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor’s repeated disregard of the authority of Owner or Engineer.
B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor
(and any surety) 10 days’ written notice that Owner is considering a declaration that Contractor
is in default and termination of the Contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) written notice that
the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has
terminated the Contract for cause, Owner may exclude Contractor from the Site, take
possession of the Work, incorporate in the Work all materials and equipment stored at the Site
or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work
as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor
within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform
and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive
any further payment until the Work is completed. If the unpaid balance of the Contract Price
exceeds the cost to complete the Work, including all related claims, costs, losses, and damages
(including but not limited to all fees and charges of engineers, architects, attorneys, and other
professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to
complete the Work including such related claims, costs, losses, and damages exceeds such
unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and
damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when
so approved by Engineer, incorporated in a Change Order. When exercising any rights or
remedies under this paragraph, Owner shall not be required to obtain the lowest price for the
Work performed.

F. Where Contractor’s services have been so terminated by Owner, the termination will not affect
any rights or remedies of Owner against Contractor then existing or which may thereafter
accrue, or any rights or remedies of Owner against Contractor or any surety under any payment
bond or performance bond. Any retention or payment of money due Contractor by Owner will
not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of
Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of
Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate for Convenience

A. Upon 7 days’ written notice to Contractor and Engineer, Owner may, without cause and without
prejudice to any other right or remedy of Owner, terminate the Contract. In such case,
Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior
to the effective date of termination, including fair and reasonable sums for overhead and
profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and
furnishing labor, materials, or equipment as required by the Contract Documents in
connection with uncompleted Work, plus fair and reasonable sums for overhead and profit
on such expenses; and
3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days’ written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor’s stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

B. Final Resolution of Disputes: For any dispute subject to resolution under this article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.
ARTICLE 18—MISCELLANEOUS

18.01 Giving Notice
   A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
      1. in person, by a commercial courier service or otherwise, to the recipient’s place of business;
      2. by registered or certified mail, postage prepaid, to the recipient’s place of business; or
      3. by e-mail to the recipient, with the words “Formal Notice” or similar in the e-mail’s subject line.

18.02 Computation of Times
   A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 Cumulative Remedies
   A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto 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 Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 Limitation of Damages
   A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 No Waiver
   A. A party’s non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 Survival of Obligations
   A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 Controlling Law
   A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 Assignment of Contract
   A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the
written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 Successors and Assigns
   A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 Headings
   A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.
These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC Document C-700, 2018 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

Articles and paragraphs herein bear numbers corresponding to those parts of the General Conditions that are being amended or supplemented.

ARTICLE 1 - Definitions and Terminology

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (EJCDC Document C-700, 2018 Edition) have the meanings assigned to them in the General Conditions.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF WORK

SC-4.01 Commencement of Contract Times; Notice to Proceed

Replace paragraph 4.01.A. with the following:

A. The printed forms of Instructions, Suggested Bid Form, Agreement and General Conditions establish a schedule of events from the opening of bids to the date when the Contract Times must start to run.

The events contemplated by the proposed schedule may be summarized as follows:

Day 1 - Bid Opening
Day 7 - Apparent Successful Bidder must submit to Owner a list of all Subcontractors, Suppliers and others who must be identified for acceptance by Owner and Engineer prior to Notice of Award. Within seven (7) days of a request therefore each Bidder must submit to Owner written evidence of Bidder’s Qualifications.
Day 45 - Notice of Award must be given to Contractor by this date and accompanied by Agreement in form for signing and with all exhibits attached.
Day 60 - By this date (or within 15 days of delivery of Notice of Award) Contractor must return signed Agreement and other data to Owner. Failure to do so will involve sacrifice of Bid Security under.
Day 70 - By this date (or within 10 days of receipt of signed Agreement and other data from Contractor) Owner must sign and deliver to Contractor one signed counterpart of Agreement with all Exhibits attached. This is usually the Effective Date of the Agreement and the date on which the Contract Time starts running (see SC-4.01). However, it is contemplated that the date on which the agreement is to become effective will have been inserted in the Agreement (in space provided just above the signatures of the parties) before it is forwarded to the Contractor for signing.
Day 70 - The Contract Times must start running no later than this date (or 30 days after the Effective Date of the Agreement if that is earlier), but by use of a Notice to Proceed as contemplated by GC-4.01A they may start running earlier than that once the Agreement has been signed by both parties and has become effective.
ARTICLE 5 – SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Owner’s Disclaimer – Drawings of Physical Conditions

Add a new paragraph immediately after Article 5.03, Paragraph F. of the General Conditions as follows:

G. The OWNER and the ENGINEER assume no responsibility or liability for the accuracy of information on existing structures.

This information was intended for Bid cost purposes only and is made available to bidders only that they may have access to identical information available. It is presented in good faith, but is not intended as a substitute for personal investigations, interpretations, or judgment of the CONTRACTOR. This information is not guaranteed and does not form part of the Contract Documents.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.01 Performance, Payment, and Other Bonds

Add the following paragraphs immediately after Paragraph 6.01.A:

1. Required Performance Bond Form: The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2018 edition).

2. Required Payment Bond Form: The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2018 edition).

SC-6.03 Contractor's Insurance

Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

D. Other Additional Insureds: As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following:

None.

E. Workers’ Compensation and Employer’s Liability: Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance, including, as applicable, United States Longshoreman and Harbor Workers’ Compensation Act, Jones Act, and foreign voluntary workers’ compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

<table>
<thead>
<tr>
<th>Workers’ Compensation and Related Policies</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ Compensation</td>
<td>Statutory</td>
</tr>
<tr>
<td>State</td>
<td>Statutory</td>
</tr>
<tr>
<td>Applicable Federal (e.g., Longshoreman’s)</td>
<td>Statutory</td>
</tr>
</tbody>
</table>
Any and all proprietors, partners, executive officers and members must be covered for Workers Compensation even if not required by NYS law to be covered. Certificates of Insurance must show that Workers Compensation is in effect and “N” must appear on the Certificate next to the question, “Any Proprietor/Partner/Executive Officer/Member Excluded”.

F. Commercial General Liability—Claims Covered: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor’s employees,
2. damages insured by reasonably available personal injury liability coverage, and
3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

G. Commercial General Liability—Form and Content: Contractor’s commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
   a. Such insurance must be maintained for three years after final payment.
   b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
2. Blanket contractual liability coverage, including but not limited to coverage of Contractor’s contractual indemnity obligations in Paragraph 7.18.
3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
4. Underground, explosion, and collapse coverage.
5. Personal injury coverage.
6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
H. Commercial General Liability—Excluded Content: The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:

1. Any modification of the standard definition of “insured contract” (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
2. Any exclusion for water intrusion or water damage.
3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
4. Any exclusion of coverage relating to earth subsidence or movement.
5. Any exclusion for the insured’s vicarious liability, strict liability, or statutory liability (other than worker’s compensation).
6. Any limitation or exclusion based on the nature of Contractor’s work.
7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. Commercial General Liability—Minimum Policy Limits

<table>
<thead>
<tr>
<th>Commercial General Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Aggregate</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Products—Completed Operations Aggregate</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Personal and Advertising Injury</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Bodily Injury and Property Damage—Each Occurrence</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

J. Automobile Liability: Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

<table>
<thead>
<tr>
<th>Automobile Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Single Limit (Bodily Injury and Property Damage)</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

K. Umbrella or Excess Liability: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

<table>
<thead>
<tr>
<th>Excess or Umbrella Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Occurrence</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>General Aggregate</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

L. Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements: Contractor may meet the policy limits specified for employer’s liability, commercial general liability, and automobile liability through the primary policies alone, or
through combinations of the primary insurance policy’s policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein.

M. Contractor’s Pollution Liability Insurance: Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor’s operations and completed operations. This insurance must be maintained for no less than three years after final completion.

<table>
<thead>
<tr>
<th>Contractor’s Pollution Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Occurrence/Claim</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>General Aggregate</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

N. Contractor’s Professional Liability Insurance: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

<table>
<thead>
<tr>
<th>Contractor’s Professional Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Claim</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Annual Aggregate</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

O. Owner’s Liability Insurance: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining additional liability insurance for the Owner and Engineer. The Contractor’s insurance carrier shall issue a separate Protective Liability Policy covering the Owner and Engineer. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

<table>
<thead>
<tr>
<th>Owner’s Liability</th>
<th>Policy limits of not less than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury</td>
<td></td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
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<tr>
<td>Property Damage</td>
<td></td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Annual Aggregate</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

The separate protective Liability Policy shall specifically name as the insureds the following parties:

The OWNER, specifically: Erie Canalway Heritage Fund.
The ENGINEER, specifically Chazen Engineering, Land Surveying, and Landscape Architecture Co., DPC.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.03 Labor; Working Hours

Add a new paragraph immediately after Paragraph 7.03.C. of the General Conditions as follows:

D. During inclement, stormy, or freezing weather, no work shall be done, except as may be performed in a manner satisfactory to secure first-class construction and by permission of the ENGINEER. During freezing weather, approved precautions shall be taken to remove ice and frost from materials used and to prevent completed portions of the work from freezing by heating the water, sand, gravel, broken stone, bricks, or other materials and by covering and heating the completed portions of the work. The cost of such precautions shall be borne by the CONTRACTOR. If, in the opinion of the ENGINEER, any work or materials shall have been damaged or injured by reason of failure on the part of the CONTRACTOR or any Subcontractor to so protect their work, such work and materials shall be removed and replaced at the expense of the CONTRACTOR.

SC-7.07 Concerning Subcontractors and Suppliers

Replace paragraph 7.07.L of the General Conditions as follows:

L. Owner or Engineer may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

SC-7.10 Sales Tax Exemptions

Add a new paragraph immediately after Paragraph 7.10.A of the General Conditions:

B. Owner is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties thereof on all materials to be incorporated into the Work.

1. Owner will furnish, upon request, the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.

2. Owner’s exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

SC-7.16.C Engineer’s Review of Shop Drawings and Samples

Add a new paragraph immediately after Paragraph 7.16.C.8 of the General Conditions as follows:

9. ENGINEER’s “review and approval” of submittals is only for review of general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections and comments made on the shop drawings during this review do not relieve CONTRACTOR from compliance with
requirements of the drawings and specifications. The CONTRACTOR is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating CONTRACTOR’s work with that of all other trades; and performing CONTRACTOR’s work in a safe and satisfactory manner.

ARTICLE 8 – OTHER WORK AT THE SITE

SC- 8.03  Legal Relationships

Add a new paragraph immediately after Paragraph 8.03.C of the General Conditions as follows:

D. Should CONTRACTOR cause damage to the work or property of any separate contractor at the site, or should any claim arising out of CONTRACTOR’s performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, ENGINEER’s Consultants, the Construction Coordinator or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER, ENGINEER, ENGINEER’s Consultants and the Construction Coordinator harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER, ENGINEER, ENGINEER’s Consultants or the Construction Coordinator to the extent based on a claim arising out of CONTRACTOR’s performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate contractor at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, ENGINEER’s Consultants or the Construction Coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability or to recover damages from OWNER, ENGINEER, ENGINEER’s Consultants or the Construction Coordinator on account of any such damage or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be CONTRACTOR’s exclusive remedy with respect to OWNER, ENGINEER, ENGINEER’s Consultants and Construction Coordinator for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from OWNER, ENGINEER, ENGINEER’s Consultant or Construction Coordinator for activities that are their respective responsibilities.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

SC-10.03  Resident Project Representative

Add the following new paragraphs immediately after Paragraph 10.03.B:

C. The Resident Project Representative (RPR) is authorized to be Engineer’s representative at the Site. RPR’s dealings in matters pertaining to the Work in general will be with Engineer and
Contractor. RPR’s dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:

1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor’s safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR’s own personal safety while at the Site.

3. *Liaison*
   a. Serve as Engineer’s liaison with Contractor. Working principally through Contractor’s authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
   b. Assist Engineer in serving as Owner’s liaison with Contractor when Contractor’s operations affect Owner’s on-Site operations.
   c. Assist in obtaining from Owner additional details or information, when required for Contractor’s proper execution of the Work.

4. *Review of Work; Defective Work*
   a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
   b. Observe whether any Work in place appears to be defective.
   c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.

5. *Inspections and Tests*
   a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.


7. *Completion*
   a. Participate in Engineer’s visits regarding Substantial Completion.
   b. Assist in the preparation of a punch list of items to be completed or corrected.
   c. Participate in Engineer’s visit to the Site in the company of Owner and Contractor regarding completion of the Work and prepare a final punch list of items to be completed or corrected by Contractor.
d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11 – CHANGES TO THE CONTRACT

SC-11.07 Contractor’s Fee

Delete Paragraphs 11.07.C.2.b and 11.07.C.2.c of the General Conditions in its entirety and insert the following in its place:

b. For costs incurred under Paragraph 13.01.B.3, the CONTRACTOR’s fee shall be 10% for combined overhead and profit; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to the Subcontractor as a fee shall be 5% for overhead plus 10% for profit.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.03 Unit Price Work

Delete entire paragraph.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01 Progress Payments

Add a new paragraph immediately after paragraph 15.01.B.1 of the General Conditions to read as follows:

Completed Work shall be defined as Work completed, tested, and accepted. Payment for completed Work will be made to the CONTRACTOR based on a payment estimate prepared by the CONTRACTOR and duly certified and approved by the ENGINEER. No payment for any part of any Work not completed, tested, and accepted in the preceding calendar month shall be made, except at the discretion of the ENGINEER with the approval of the OWNER.
Progress Payments

Add the following immediately after paragraph 15.01.C.6 of the General Conditions:

f. Additional reasons ENGINEER may refuse to recommend the whole or any part of any payment, or nullify any such payment previously recommended, all in accordance with paragraph 14.07 of the General Conditions, are to protect OWNER from loss because:

1. of injury to persons, or damage to the work or property of other contractors, subcontractors, or others caused by the act or neglect of the CONTRACTOR or any of CONTRACTOR’s Subcontractors; or

2. of CONTRACTOR’s failure to make payment to Subcontractors or Suppliers, or for labor; or

3. Liability for liquidated damages has been incurred by CONTRACTOR (when the Agreement includes such liquidated damage provisions).

The OWNER shall have the right to apply any such amounts so withheld in such manner as the OWNER may deem proper to satisfy such claims or to secure protection. Such application of such money shall be deemed payment to the account of the CONTRACTOR.

Contractor’s Warranty of Title

Add the following sentence at the end of paragraph 15.02.A of the General Conditions:

If requested by the OWNER, the CONTRACTOR shall furnish to the OWNER confirmatory bills of sale and other instruments as may be required by the OWNER, properly executed, confirming to the OWNER, title to such materials free of encumbrances.

Final Payment

Amend paragraph 15.06.A.2 of the General Conditions to read as follows, and as so amended the paragraph remains in effect:

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (a) all documentation called for in the Contract Documents and by such other data and schedules as ENGINEER may reasonably require, including but not limited to:

Correction Period

Revise Paragraph 15.08.A. to read as follows:

A. If within one year after the date of Final Payment and Acceptance (not Substantial Completion), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor’s repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner’s written instructions:

END OF SECTION
SECTION 007310
SUPPLEMENTARY CONDITIONS
ADDITIONAL ARTICLES

These Supplementary Conditions add new topics to the Standard General Conditions of the Construction Contract (EJCDC Document C-700, 2018 Edition) and other provisions of the Contract Documents.

Articles and paragraphs herein are numbered as a continuation of the General Conditions. Some numbers in sequence may not appear because those numbered Articles and paragraphs are not applicable to this Project and have been deleted when transferring this Section from the office master document.

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ATTACHMENTS

A-1    PROGRAM SPECIFIC TERMS AND CONDITIONS, ENVIRONMENTAL PROTECTION FUND

A-2    NOTICE: CONTRACTORS, SUBCONTRACTORS, SUPPLIERS AND VENDORS
Article 19 - PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

Article 20 - NEW YORK STATE NONDISCRIMINATION CLAUSES

20.01 During the performance of this Contract, the CONTRACTOR agrees as follows:

A. The CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, color or national origin. Such action shall be taken with reference but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.

B. The CONTRACTOR will send to each labor union or representative of workers with which CONTRACTOR has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commission for Human Rights, advising such labor union or representative of the CONTRACTOR’s agreement under Paragraph 20.01 hereinafter called “nondiscrimination clauses”. If the CONTRACTOR was directed to do so by the contracting agency as part of the bid or negotiation of this Contract, the CONTRACTOR shall request the labor union or representative to furnish CONTRACTOR with a written statement that such labor union or representative will not discriminate because of race, creed, color or national origin and that such labor union or representative either will affirmatively cooperate within the limits of its legal and contractual authority in the implementation of the policy and provisions of these nondiscrimination clauses, or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under this contract shall be in accordance with the purposes and provisions of these nondiscrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the CONTRACTOR shall promptly notify the State Commission for Human Rights of such failure of refusal.

1. The CONTRACTOR will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commission for Human Rights setting forth the substance of the provisions of clauses (20.01.A) through (20.01.B) and such provisions of the State’s Laws against discrimination as the State Commission for Human Rights shall determine.

2. The CONTRACTOR will state, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color or national origin.

3. The CONTRACTOR will comply with the provisions of the Executive Law, Human Rights Law, Article 15, and will furnish all information and reports deemed necessary by the State
Commission for Human Rights under these nondiscrimination clauses and such sections of the Executive Law, and will permit access to the CONTRACTOR’s books, records and accounts by the State Commission for Human Rights, the Attorney General, District Commissioner of Housing and Community Renewal and the Industrial Commission for purposes of investigation to ascertain compliance with these nondiscrimination clauses of the Executive Law, Human Rights Law, Article 15.

4. This Contract may be forthwith cancelled, terminated or suspended, in whole or in part by the contracting agency upon the basis if a finding made by the State Commission for Human Rights that the CONTRACTOR has not complied with these nondiscrimination clauses, and the CONTRACTOR may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the State or housing authority, or an urban renewal agency, or contract requiring the approval of the Commissioner of Housing and Community Renewal, until CONTRACTOR has satisfied the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these nondiscrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been afforded CONTRACTOR to be heard publicly before three members of the Commission. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided by law.

5. If this Contract is cancelled or terminated under clause (20.6), in addition to other rights of the contracting agency provided in this Contract upon its breach by the CONTRACTOR, the CONTRACTOR will hold the contracting agency harmless against any additional expenses or costs incurred by the contracting agency in completing the work or in purchasing the services, materials, equipment or supplies contemplated by the Contract, and the contracting agency may withhold payments from the Contractor in an amount sufficient for this purpose and recourse may be had against the surety on the performance bond if necessary.

6. The CONTRACTOR will include the provisions of clauses (20.1) through (19.7) in every subcontract or purchase order altered only to reflect the proper identity of the parties in such manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The CONTRACTOR will take such actions in enforcing such provisions of such subcontract or purchase order as the contracting agency may direct, including sanctions or remedies for non-compliance. If the CONTRACTOR becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency the CONTRACTOR shall promptly so notify the Attorney General, requesting him to intervene and to protect the interests of the State of New York.

Article 21 - NEW YORK STATE NON-COLLUSIVE BIDDING CERTIFICATION

21.01 In addition to the other provisions herein contained to be done or performed by the CONTRACTOR as part of this Contract, the said CONTRACTOR certifies, pursuant to the provisions of Section 103-d of the New York State General Municipal Law that:

A. By submission of this Bid, each Bidder and such person signing on behalf of any Bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief:
B. 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 competitor; and

C. Unless otherwise required by law, the prices which have been quoted in this Bid have not knowingly be 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

D. 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.

1. A Bid shall not be considered for award nor shall any award be made where A, B, and C, above have not been complied with; provided however, that if in any case the Bidder cannot make the foregoing certification, the Bidder shall so state and shall furnish with the Bid a signed statement which sets forth in detail the reasons therefore. Where A and C above have not been complied with, the Bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the Bid is made, or their designee, has determined that such disclosure was not made for the purpose of restricting competition.

E. The fact that a Bidder (1) has published price lists, rates or tariffs covering items being procured, (2) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (3) has sold the same items to other customers at the same prices being Bid, does not constitute, without more, a disclosure within the meaning of subparagraph (A).

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

Article 22 - WAGE RATES

22.01 New York State Rates

A. New York State minimum wage rate schedules are bound at the end of these Supplementary Conditions.

B. The labor on this Contract shall be performed in all respects in full accordance with the Labor Law of the State of New York. In accordance with Section 220, Subdivision 3, and Section 220-D, of the Labor Law, the Industrial Commissioner has designated as the minimum hourly rates to be paid to employees on this work the rates shown on the attached schedules which shall be posted in a prominent and convenient place for the inspection of the CONTACTOR’S employees. Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, provides, among other things, that it shall be the duty of the fiscal officer to make a
determination of the schedule of wages and supplements to be paid to all laborers, workmen and mechanics employed on public work projects. The amount of supplements listed on the enclosed schedule does not necessarily include all types of prevailing supplements.

C. The CONTRACTOR shall make provision for disability benefits, workmen’s compensation, unemployment insurance and social security, as required by law.

Article 23 - PROTECTION OF EXISTING FACILITIES

23.01 The CONTRACTOR shall conduct CONTRACTOR’s operations and take all special temporary and permanent precautions necessary to insure a stable and secure job, and as may be required by the contract documents, the ENGINEER, the OWNER, and the public utilities, to protect and sustain in normal service all existing structures, equipment, utility lines, roadways and subsurface, submerged and overhead facilities which are to remain in place and undisturbed by CONTRACTOR’s operations under this Contract completely at CONTRACTOR’s own expense, unless otherwise provided for in the contract documents. The CONTRACTOR shall be held accountable for damage resulting from failure to exercise proper judgment in the progress of the work.

A. When power poles, light poles, pipes or portions of any other existing structures, or utilities, either visible or underground, constitute an avoidable interference to CONTRACTOR’s operations, the CONTRACTOR shall consult with the owner of such facility prior to performing any work at or near the same. If permitted by the owner of the facility, the CONTRACTOR shall relocate or temporarily remove, and later restore, the interfering portion of the facility, as directed by said owner and the project OWNER, through the ENGINEER. If the owner of the facility so elects, they will perform such work with their own forces. Under either arrangement, the work shall be done at the CONTRACTOR’s expense unless stated otherwise in the Contract Documents.

B. The CONTRACTOR shall immediately notify the ENGINEER, OWNER and the owner of any facilities which are exposed, disturbed, damaged or injured as a result of the CONTRACTOR’s operations. The CONTRACTOR shall consult with the owner of such facility as to the proper method of replacing, repairing, or restoring the affected facilities to the conditions which existed prior to the CONTRACTOR’s operations. If permitted by the owner of the facility, the CONTRACTOR shall, at CONTRACTOR’s own expense, replace, repair, or restore affected facilities to their original condition, to the satisfaction of said owner.

C. In the event that the owner of the facility desires to use their own forces to perform the replacement, repairing or restoring of affected facilities, the CONTRACTOR shall reimburse the owner of said facilities for such expenses as said owner may accrue in performing such work. The CONTRACTOR shall not be entitled to receive additional compensation under this Contract for such work.

D. Upon learning of the existence and location of any utility omitted from or shown incorrectly on the contract drawings the CONTRACTOR shall notify the utility owner and the ENGINEER and assumes full responsibility for that utility’s protection or relocation as described above.
Article 24 - MATERIALS FOUND AT THE SITE

24.01 All timber, fences, buildings, stone, sand, gravel, utility lines, pipes, and any other appurtenances, materials, or articles of value found on lands or in excavations within the contract limits shall be brought to the attention of the ENGINEER.

A. If such items are found in or upon lands of the OWNER, they shall remain the property of the OWNER. Such materials may, therefore, be used by the CONTRACTOR in the work at the discretion of the ENGINEER or the OWNER, for purposes for which they are acceptable. If not otherwise claimed by the OWNER or OWNER’s representatives, such items shall be considered waste and shall be disposed of by the CONTRACTOR as stipulated hereafter.

B. If such items are found in or upon lands or easements being used in the project but being owned by parties other than the OWNER, they shall remain the property of such other owners. If claimed by these owners, the items shall be turned over to these owners at the site of the work as the ENGINEER directs. If such items are not claimed by these owners, they may similarly be used in the work as stipulated in the preceding paragraph, or be considered waste and be disposed of by the CONTRACTOR as stipulated hereafter.

C. Disposal of waste materials shall be the CONTRACTOR’s responsibility as an integral part of the Contract and shall be done without special payment from the OWNER. The decision as to whether disposal takes place inside or outside of the project limits shall be subject to control by the ENGINEER. If disposal takes place within the project limits, it shall be done by the CONTRACTOR subject to the direction and satisfaction of the ENGINEER. Waste material shall not be sold to parties within the project limits. If disposal takes place outside the project limits, it shall be done by the CONTRACTOR exclusively at the CONTRACTOR’s discretion and be solely CONTRACTOR’s responsibility. The CONTRACTOR will be required to show the ENGINEER how CONTRACTOR plans to dispose of the waste (i.e., unsuitable backfill, rock, etc.) in an environmentally acceptable manner. The ENGINEER will require copies of release forms from property owners who have agreed with CONTRACTOR to accept spoil materials. All construction, demolition and solid waste materials as classified by NYSDEC, part 360, regulations shall be properly disposed of in accordance with part 360 regulations at CONTRACTOR’s expense.

Article 25 - USE AND PROTECTION OF WATERS IN NEW YORK STATE

25.01 The CONTRACTOR is advised that any work or operations which in any way disturb or affect the streambed or banks of any stream which is classified by the New York State Departmental of Environmental Conservation falls under the control and supervision of the Department of Environmental Conservation. In compliance with the law, the CONTRACTOR will be required to contact the Local Permit Agent of NYSDEC and advise them of CONTRACTOR’s intent to impact said stream. They will then advise the CONTRACTOR of the procedures and conditions to be followed, if any, in making the stream crossings and/or working on the banks of the stream.
I. Agency Specific Terms and Conditions

A. The Program Office, Designated Payment Office and Designated Refund Office shall be the STATE AGENCY identified on the face page. Document submission and inquiries should be directed to the Regional Grant Administrator for the Contractor’s county of operations.

B. For purposes of notice, the Contractor’s designee shall be the CONTRACTOR DOS INCORPORATED NAME at the CONTRACTOR PRIMARY MAILING ADDRESS, as identified on the face page.

C. Payment shall be made to CONTRACTOR SFS PAYEE NAME at the CONTRACTOR PAYMENT ADDRESS identified on the Face Page.

D. Special Conditions and Requirements specific to the project, including the timeline for submission of required documents and reports, are contained in Attachment E (Special Conditions and Requirements).

E. Changes to Budget and Program Work Plan. Changes shall not be made in the work described in Attachment C (Work Plan) or the proposed expenditure of funds as shown in Attachment B (Budget), without the prior written approval of the State. Such approval will be granted if the changes are not substantive and do not alter the scope, intent or basic elements of the contract. Changes in the Work Plan or Budget that are substantive or alter the scope, intent or basic elements of the contract, if agreed to by the State, will be implemented by an amendment that may require approval and filing with the New York Attorney General Contract Approval Unit (AG) and the Office of the State Comptroller (OSC or State Comptroller), per Section I(B) of this Master Contract.

F. Procurement. All goods and services required for this project must be procured in a manner so as to assure the prudent and economical use of grant moneys, to facilitate the acquisition of goods and services of maximum quality at the lowest possible cost under the circumstances, and to guard against nepotism, favoritism, improvidence, extravagance, fraud and corruption.

1. If the Contractor is subject to General Municipal Law, documentation of the Contractor’s compliance with the procurement and bidding requirements of General Municipal Law shall be included with the applicable request for reimbursement.

2. If the total amount of the goods or services is less than the dollar threshold for competitive bidding, or if the Contractor is not subject to General Municipal Law, the Contractor must follow procurement procedures designed to achieve the purpose of this clause. Such procedures may include, but are not limited to, competitive bidding, the solicitation of three price quotes, written requests for proposals, etc. When submitting a request for reimbursement, the Contractor must include a copy of the organizational procurement policy applicable to the relevant expenditures and/or documentation of the specific procurement process used for those expenditures.

G. The Contractor and all users of this contract are strongly encouraged, to the maximum extent practicable and consistent with legal requirements, to use responsible and responsive New York State businesses as subcontractors, suppliers, and in other supporting roles. The Contractor will be required to identify and describe New York State businesses used and the value of subcontracts and supply contracts.
H. Non-Discrimination:

1. If the project involves development or acquisition of public facilities, the Contractor shall not limit access or discriminate in the operation of the facilities on the basis of place of residence, race, creed, color, national origin, sex, age, disability or marital status.

2. The Contractor agrees to comply with all applicable Federal, State, and local Civil Rights and Human Rights laws with reference to equal employment opportunities and the provisions of service.

I. Termination. In addition to the options available to the State in the Master Contract, in the event the Contractor fails to comply with its terms and conditions regarding completion of the project, the State at its option may require the Contractor to bring the project to a point of educational/interpretive, historical, recreational or conservation usefulness as determined by the State.

J. Documents submitted to the State may be subject to disclosure under the Freedom of Information Law.

K. Non-Sectarian Purposes. The Contractor agrees that funds made available as shown in Attachment B will only be used to achieve the intended public benefit and will not be used for any sectarian purposes.

L. 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).

M. 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.

N. 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.
O. **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.

P. **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.

Q. **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://oes.ny.gov/list-entities-determined-be-non-responsive-biddersofferers-pursuant-nys-iran-divestment-act-2012](https://oes.ny.gov/list-entities-determined-be-non-responsive-biddersofferers-pursuant-nys-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.

R. **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.

II. **Program Specific Terms and Conditions**

A. Funding for this project is provided pursuant to the terms of the Environmental Protection Act, Title 9 of Article 54 of the Environmental Conservation Law, and governed by the Rules and Regulations set forth in 9 NYCRR Sections 439-443.

B. **Retroactive funding.** Notwithstanding the provisions of Section III(A)(2) of this Master Contract, program regulations set forth in 9 NYCRR 440.5 (Project sponsor's match) permit retroactive reimbursement of certain expenses, when those expenses are included in the project Budget.
C. Notwithstanding the provisions of Section III(C)(4) of this Master Contract, the State will withhold ten percent (10%) of the Contract Funding Amount identified on the face page of this Master Contract as security until all terms and conditions of this Master Contract have been satisfied by the Contractor to the satisfaction of the State.

D. Project Sign. At the commencement of the work described in the Work Plan, the Contractor shall erect a sign at the project site noting the State's assistance to the project. The project sign specifications and term length for this requirement are set forth in Attachment E (Special Conditions and Requirements).

E. Public Benefit Requirements.

1. In order to ensure a public benefit accrues from an acquisition, development or construction project that is being funded the Contractor shall:
   a. Afford the public reasonable access to or use of the project as specified by the State;
   b. Not impose a fee for use of or access to the project without the prior written approval of the State;
   c. Own or hold by lease or maintain and operate the project as specified by the State;
   d. Not allow operation of the project, or any portion thereof, by any other person, entity, or organization pursuant to any management agreement, license or other arrangement without first obtaining the written approval of the State;
   e. Not alter, demolish, sell, lease or otherwise convey the project, in whole or in part, or permit a change in use of the project, without the prior written approval of the State; and
   f. Submit all plans in writing for restoration, rehabilitation, improvement, demolition or other physical change to the completed project for State approval before work commences.

2. Other public benefit requirements specific to this project, including the term length of any property restriction (e.g., preservation covenant or public access covenant) and the legal mechanism for enforcing the restriction as specified by the State are set forth in Attachment E (Special Conditions and Requirements).

3. Parkland acquired or improved by a municipality shall not be sold, leased, exchanged or otherwise disposed of (collectively, “disposed of”) or converted to other than public park purposes without the express authority of an act of the Legislature, which shall provide for the substitution of other land of equal fair market value and reasonably equivalent usefulness and location to that being disposed of or converted, and such other additional requirements as shall be required by the State.

4. Land acquired for recreation or conservation purposes by a not-for-profit organization shall be subject to a conservation easement (see, Title 3 of Article 49 of the Environmental Conservation Law) to be held by the State. Parkland shall not be disposed of by the not-for-profit organization except to the State, a local government unit or another qualifying tax exempt not-for-profit organization that shall be required to use it for recreation or conservation purposes. Disposal to any other entity of parkland acquired for recreation or conservation purposes by a not-for-profit corporation shall require the express authority of an act of the Legislature.

F. It is the Contractor’s responsibility, pursuant to Sections 57 and 220(8) of the Workers' Compensation Law, to maintain for State audit and review either proof that they have Workers' Compensation and Disability Benefits Insurance coverage for any employees, or proof of exemption from the New York State Workers’ Compensation Board. The Contractor must also obtain from any contractor or subcontractor hired to provide a service pursuant to this Master Contract, similar proof or waivers from the contractor or subcontractor, and must maintain such documentation on file for audit.
G. **Archeology.** In the event of any unanticipated archeological discoveries, the Contractor shall stop all work and notify the State immediately. Work shall not resume until the State determines how any previously undiscovered archeological remains will be treated. Special attention shall be given to any discovery of burials, graves, or human remains.

H. **Preservation of Historic Properties.** It is the public policy and in the public interest of the State to preserve New York’s historical, archeological, architectural and cultural heritage. All activities under this Master Contract shall be reviewed under either Section 106 of the National Historic Preservation Act or Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law to ensure that adverse effects or impacts on significant properties are avoided or mitigated. Any work that affects historic properties shall conform to The Secretary of the Interior's Standards for the Treatment of Historic Properties 1995, The Secretary of the Interior's Standards and Guidelines for Archeological Documentation or any other applicable Secretary of the Interior's Standards (collectively referenced as STANDARDS), which are available from the State.

I. **Planning Requirements.**

1. All planning documents, plans and specifications must be accepted by the State before the Contractor awards contracts for the project or the subject property. These must be prepared by a qualified professional accepted by the State.

2. Any documents developed under this Master Contract shall include recognition of funding through the Environmental Protection Fund from the Office of Parks, Recreation and Historic Preservation.

J. **Construction Requirements.** If the Project described in this Master Contract includes construction, the following shall apply:

1. Contract plans, specifications, and cost estimates shall be submitted to the State for review prior to the letting of any construction contract by the Contractor. The State shall verify that the plans, specifications and cost estimates are in conformance with the work described in Attachment B and shall so notify the Contractor in writing; the State shall further verify that appropriate documents have been prepared by a professional licensed to practice in the State of New York. All plans and specifications as reviewed shall become part of this Master Contract, and no change or revision may be made to such plans and specifications without the express written consent of the State.

2. The Contractor shall be responsible for assuring that the project is designed and constructed in conformance with the Uniform Federal Accessibility Standards (UFAS Appendix A to 41 CFR part 101 19.6), the Americans with Disabilities Act Accessibility Guidelines (ADAAG Appendix A to 28 CFR part 36) and the New York State Uniform Fire Prevention and Building (I) (Code (parts 1219 1228 of Title 19 NYCRR). Where there are discrepancies among the sets of standards with regard to a particular design/construction requirement, the one providing for the greatest degree of accommodation for the disabled shall apply.

3. It is the Contractor’s responsibility to assure that all work on the project complies with the State Environmental Quality Review Act, receives all required permits in advance, and complies with all applicable Federal, State and/or local laws including, but not limited to, zoning ordinances and building codes.

K. **Post-Completion Requirements.** Following completion of the project, the Contractor shall be responsible for maintaining project records. Where the project involves acquisition of equipment or acquisition of or improvement of real property, the Contractor shall be responsible for maintaining and operating the equipment, property, and/or improvements; providing public access; maintaining public signage related to the project; and seeking any required State approvals. The State shall have the right and responsibility to audit records and inspect the project and property for compliance.
ATTACHMENT A-2

NOTICE: CONTRACTORS, SUBCONTRACTORS, SUPPLIERS AND VENDORS

This project is funded in part by a grant from the NYS Office of Parks, Recreation and Historic Preservation through Title 9 of the Environmental Protection Act of 1993. All contracts and subcontracts for the project are subject to the terms of the NYS Master Contract for Grants -- Standard Terms and Conditions (MCG), which can be found online at http://grantsreform.ny.gov, and Attachment A-1 (A-1), attached hereto. If any other funding sources are involved in the project, the grantee is responsible for compliance with the program requirements for those funding sources.

Note particularly the following requirements:

- The State’s right to review and approve every subcontract in excess of $100,000. MCG IV(B)(2)

- The requirement that subcontracts contain provisions specifying (1) that work accord with the terms of the Master Contract, (2) that nothing can impair the rights of the State under the Master Contract, and (3) that nothing in the subcontract creates a contractual relationship between the subcontractor and the State. MCG IV(B)(2)

- Contractor’s responsibility to submit vendor responsibility information to the State, including a Vendor Responsibility Questionnaire for subcontracts that equal or exceed $100,000. MCG IV(B)(4)

- Non-discrimination requirements MCG IV(I) and A-1 I(I)

- Equal Opportunity provisions, including a requirement that the following provisions be included in construction subcontracts in excess of $25,000:
  - The Contractor shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status;
  - The Contractor 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;
  - The Contractor shall 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, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;
  - At the request of the State, 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 shall not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative shall affirmatively cooperate in the implementation of the Contractor’s obligations herein; and
  - The Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants shall be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. MCG IV(J)

- Wages and Hours Provisions MCG IV(Q)

- New York State business requirement A-1 I(G)

- Worker’s Compensation and Disability Benefits Insurance coverage A-1 II(E)

END OF SECTION 007310
SECTION 008300
NYS DEPT. OF LABOR WAGE & SUPPLEMENT INFORMATION

NOTICE TO BIDDERS

The Contractor shall be responsible for meeting New York State Prevailing Wage Requirements. The New York State Department of Labor schedule of the prevailing hourly wage rates is attached to this section.

END OF SECTION
EXCEPT FOR ABOVE REFERENCED ITEMS WHICH FOLLOW
SECTION 011100
SUMMARY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification:
   1. Project Location: Matton Shipyard, Cohoes, NY
   2. Owner: Erie Canalway Heritage Fund, Inc.

B. Engineers Identification: LaBella Associates
   4 British American, Latham,
   NY 12110, Tel: 518-273-0055.

C. The work includes the installation the following:
   1. General Construction – Project includes mobilization, removal and disposal of contaminated soils, installation of a stone parking area, sediment and erosion control including waterfront measures and turbidity curtain, selective demolition and removal or shoreline structures and debris, cut and fill of onsite soils, import of fill and finished grading, installation of timber piling wall, installation of vegetative shoreline, general stabilization and restoration.

1.03 CONTRACT

A. Project consists of the following separate contracts:
   Contract 1 – Soil Remediation and Shoreline Stabilization

B. Items noted “NIC” (Not-In-Contract) or “By Owner”, will be furnished and installed by others.

1.04 PROJECT FUNDING AND LABOR REQUIREMENTS

A. This building stabilization project was prepared for the Erie Canalway Heritage Fund and funded through the balance of previously acquired CFA applications.

B. New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 (“MWBE Regulations”) Participation.
   1. The project requires equal employment opportunities for minority group members and women (EEO) and contracting opportunities for certified minority and women-owned business enterprises (MWBEs). The project goals established by the NYSDOS for New York State certified MWBEs are 15% (Minority-Owned) and 15% (Women-Owned) for this contract.
1.05 WORK SEQUENCE

A. The Work shall be conducted in one single phase. Coordinate construction schedule and operations with Owner and Engineer.

B. Milestone Dates:
   1. Physical construction start of site is to occur on or about July 2024.
   2. Substantial completion for the work (whereat the site can be used by the public) shall be on or about November 29, 2024.

1.06 CONTRACTOR USE OF PREMISES

A. Coordinate with Owner and limit use of premises for work and for construction operations to allow for Owner occupancy, work by others and public access to the park area.

1.07 OWNER OCCUPANCY

A. Owner will occupy premises during entire period of construction, stage of construction. Cooperate with Owner and Engineer to minimize conflict and facilitate Owner’s operations.

1.08 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC’s "MasterFormat" numbering system.
   1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
   1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
   2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
      a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 011400

WORK RESTRICTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary
Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 USE OF PREMISES

A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site
beyond areas in which the Work is indicated.

1. Limits: Confine constructions operations to areas as shown on Contract Drawings. No work
outside of the project limits is permitted.

2. Parking and Entrances: Keep adjacent parking areas and entrances serving properties
affected by the Work clear and available to the property owners, and emergency vehicles
at all times. Do not use these areas for parking or storage of materials.

   a. Schedule deliveries to minimize traffic impacts.
   b. Schedule deliveries to minimize space and time requirements for storage of
      materials and equipment on-site.

B. Working Times:

1. Normal allowable work hours are defined as 8:00 AM to 5:00 PM, Monday through Friday,
however weekend work shall be permitted under this contract.

C. Noise: Contractor shall not perform work in excess of 65 dBA outside of allowable work hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 012100

ALLOWANCES

PART 1 GENERAL

1.01 DESCRIPTION

A. Include in the contract base bid sum the allowances stated in this Section.

B. Should the net cost be more than the specified amount of the allowance, the contract sum will be adjusted by Order on Contract in accordance with the General Conditions. No Work in excess of the allowance will be permitted except by Order on Contract. Should the net cost be less than the specified amount of the allowance, the balance will be deducted from the final payment.

1.02 TOTAL FOR ALLOWANCES

A. The sum of allowances required by this Contract is $20,000. This allowance is for environmental oversight of the soil remediation scope. This oversight will be provided by the designer of record.

1.03 ALLOWANCES FOR CONTINGENCIES

A. Include in the contract sum the amount indicated below to cover the cost of additional labor and materials for contingent activities within the scope of the Contract as directed in writing by Field Order. The Field Order will include a description of the Work and a method for determining the cost of such Work.

   1. Environmental Oversight: $25,000
   2. Owner’s Contingency: $20,000

B. The value of the directed Work under this allowance will be determined by one or more of the methods authorized in Section 012600 which will be specified in the Field Order.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED
   A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.02 RELATED REQUIREMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
   B. Section 016000 - Product Requirements.

1.03 MINOR CHANGES IN THE WORK
   A. Engineer will issue through Project Representative supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, in the form of a written Field Order (EJCDC form C-942) in accordance with Paragraph 11.02 of the General Conditions.

1.04 PROPOSAL REQUESTS
   A. Owner-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
      1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
      2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
         a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
         b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
         c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

5. Comply with requirements in Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

1.05 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor on EJCDC form C-941 included as Section 012663.

1.06 CONSTRUCTION CHANGE DIRECTIVE

A. Work Change Directive: Engineer may issue a Work Change Directive on EJCDC form C-940 included as Section 012649. Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 012639
FIELD ORDER NO.: [Number of Field Order]

Owner: Erie Canalway Heritage Fund, Inc.       Owner’s Project No.:  
Engineer: Labella Associates/MJ               Engineer’s Project No.: 2240575  
Contractor:                                   Contractor’s Project No.: 
Project: Matton Shipyard Pre-Development Phase 2  
Contract Name: Soil Remediation and Shoreline Stabilization  
Date Issued:                                  Effective Date of Field Order: 

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, 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 a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s):  
Drawing(s) / Details (s):  

Description:  

[Description of the change to the Work]  

Attachments:  

[List documents supporting change]  

Issued by Engineer  

By: ________________________________________________  
Title: ________________________________________________  
Date: ________________________________________________  

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EJCDC® C-942, Field Order.  
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Page 1 of 1
SECTIon 012649
WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]

Owner: Erie Canalway Heritage Fund, Inc.  Owner’s Project No.: 
Engineer: Labella Associates/MJ  Engineer’s Project No.: 2240575
Contractor:  Contractor’s Project No.: 
Project: Matton Shipyard Pre-Development Phase 2
Contract Name: Soil Remediation and Shoreline Restoration
Date Issued: 

Effective Date of Work Change Directive:

Contractor is directed to proceed promptly with the following change(s):

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: $ [increase] [decrease] [not yet estimated].

Contract Time: _____ days [increase] [decrease] [not yet estimated].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Engineer

By:

Title:

Date:

Authorized by Owner

By:

Title:

Date:

EJCDC® C-940, Work Change Directive.
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CHANGE ORDER NO.: [Number of Change Order]

Owner: Erie Canalway Heritage Fund, Inc.  Owner’s Project No.:  
Engineer: Labella Associates/MJ  Engineer’s Project No.: 2240575  
Contractor:  
Project: Matton Shipyard Pre-Development Phase 2  
Contract Name: Soil Remediation and Shoreline Restoration  

Effective Date of Change Order:  

The Contract is modified as follows upon execution of this Change Order:  

Description:  

[Description of the change]  

Attachments:  

[List documents related to the change]  

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Recommended by Engineer (if required)  

By: ____________________________  
Title: ____________________________  
Date: ____________________________  

Authorized by Owner  

Authorized by Owner  

Approved by Funding Agency (if applicable) By:  

Title: ____________________________  
Date: ____________________________  

EJCDC® C-941, Change Order.
SECTION 012900
PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

B. Section 012600 - Contract Modification Procedures.

C. Section 013200 - Construction Progress Documentation.

1.03 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

   a. Application for Payment forms with Continuation Sheets.
   b. Submittals Schedule.

2. Submit the Schedule of Values to Engineer through Project Representative at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:
a. Project name and location.
b. Name of Engineer.
c. Engineer's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
   a. Related Specification Section or Division.
   b. Description of the Work.
   c. Name of subcontractor.
   d. Name of manufacturer or fabricator.
   e. Name of supplier.
   f. Change Orders (numbers) that affect value.
   g. Dollar value.

1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

   a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
1.05 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days before the date for each progress payment.

C. Certified Payrolls: Contractor shall provide certified payrolls as attachments to each original copy of the application for payment.

D. Payment Application Forms: EJCDC Document C-620 or other standard form as approved by Engineer for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
   1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
   2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

F. Transmittal: Submit 5 signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
   1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
   2. When an application shows completion of an item, submit final or full waivers.
   3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
   4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
      a. Submit final Application for Payment with, or preceded by, final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
   5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of Values.
   3. Contractor's Construction Schedule (preliminary if not final).
   4. Products list.
   5. Submittals Schedule (preliminary if not final).
   6. List of Contractor's staff assignments.
   7. List of Contractor's principal consultants.

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
   1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
   2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
   1. Evidence of completion of Project closeout requirements.
   2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
   3. Updated final statement, accounting for final changes to the Contract Sum.
   4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
   6. AIA Document G707, "Consent of Surety to Final Payment."
   7. Final, liquidated damages settlement statement.
   8. Transmittal of As-Built drawings in digital and hard copy format.
   9. Evidence that temporary facilities, surplus materials, rubbish and contractor owned equipment and machinery have been removed from the site.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 013300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED
   A. This Section includes administrative and procedural requirements for submitting Shop Drawings,
      Product Data, Samples, and other miscellaneous submittals.

1.02 RELATED REQUIREMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary
      Conditions apply to this Section.
   B. Section 012900 - Payment Procedures.
   C. Section 013100 - Project Management and Coordination.
   D. Section 013200 - Construction Progress Documentation.
   E. Section 014000 - Quality Requirements.
   F. Section 017700 - Closeout Procedures.
   G. Section 017839 - Project Record Documents

1.03 DEFINITIONS
   A. Action Submittals: Written and graphic information that requires Engineer's and Project
      Representative's responsive action.
   B. Informational Submittals: Written information that does not require Engineer's and Project
      Representative's approval. Submittals may be rejected for not complying with requirements.

1.04 SUBMITTAL PROCEDURES
   A. General: Electronic copies of CAD Drawings of the Contract Drawings can be provided by
      Engineer for Contractor's use in preparing submittals. The Engineer does not assume any
      responsibility for accuracy of CAD documents provided. LaBella requires the Contractor to sign
      an electronic file release form prior to distribution of any CAD documents.
   B. Coordination: Coordinate preparation and processing of submittals with performance of
      construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
   a. Engineer and Project Representative reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

D. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Engineer's receipt of submittal.
   1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time, if processing must be delayed, to permit coordination with subsequent submittals. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Concurrent Review: Where concurrent review of submittals by Engineer's consultants, Owner, or other parties is required, allow 21 days for initial review of each submittal.
   3. Direct Transmittal to Consultant: Where the Contract Documents indicate that submittals may be transmitted directly to Engineer's consultants, provide duplicate copy of transmittal to Engineer and Project Representative. Submittal will be returned to Engineer before being returned to Contractor.
   4. If intermediate submittal is necessary, process it in same manner as initial submittal.
   5. Allow 15 days for processing each re-submittal.
   6. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

E. Identification: Use the Engineer’s standard transmittal cover sheet for each submittal. The Contractor will be provided an electronic copy of the standard transmittal cover sheet after project Award. A reference copy of the transmittal cover sheet has been included at the end of this section for reference. Submittals missing the Engineer’s standard cover sheet or using a different cover sheet will be returned.
   1. Complete cover sheet in its entirety.
   2. Include the following information on label for processing and recording action taken:
      a. Project name.
      b. Date.
      c. Name and address of Engineer.
      d. Name and address of Contractor.
      e. Name and address of subcontractor.
f. Name and address of supplier.
g. Name of manufacturer.
h. Unique identifier, including revision number.
i. Number and title of appropriate Specification Section.
j. Drawing number and detail references, as appropriate.
k. Other necessary identification.

F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

G. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer or Project Representative observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Engineer and Project Representative.

2. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.

H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using the Engineer’s standard transmittal form which will be provided electronically to the Contractor following Award (a template of the standard transmittal is included for reference following this section). Engineer and Project Representative will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor’s letterhead, record relevant information, requests for data, revisions other than those requested by Engineer and Project Representative on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

PART 2 - PRODUCTS

2.01 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Number of Copies: Submit copies of each submittal, as follows, unless otherwise indicated:
a. Initial Submittal: Submit a preliminary single copy of each submittal where selection of options, color, pattern, texture, or similar characteristics is required. Engineer will return submittal with options selected.
b. Final Submittal: Submit three copies, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Engineer will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Document.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.

3. Include the following information, as applicable:
   a. Manufacturer's written recommendations.
   b. Manufacturer's product specifications.
   c. Manufacturer's installation instructions.
   d. Standard color charts.
   e. Manufacturer's catalog cuts.
   f. Wiring diagrams showing factory-installed wiring.
   g. Printed performance curves.
   h. Operational range diagrams.
   i. Mill reports.
   j. Standard product operating and maintenance manuals.
   k. Compliance with recognized trade association standards.
   l. Compliance with recognized testing agency standards.
   m. Application of testing agency labels and seals.
   n. Notation of coordination requirements.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:
   a. Dimensions.
   b. Identification of products.
   c. Fabrication and installation drawings.
   d. Roughing-in and setting diagrams.
   e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
   f. Shopwork manufacturing instructions.
   g. Templates and patterns.
   h. Schedules.
   i. Design calculations.
   j. Compliance with specified standards.
   k. Notation of coordination requirements.
   l. Notation of dimensions established by field measurement.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches.

3. Number of Copies: Submit copies of each submittal, as follows:
   a. Initial Submittal: Submit two blue- or black-line prints. Engineer will return one print.
   b. Final Submittal: Submit three blue- or black-line prints, unless prints are required for operation and maintenance manuals. Submit five prints where prints are required for operation and maintenance manuals. Engineer will retain two prints; remainder will be returned. Mark up and retain one returned print as a Project Record Drawing.

D. Coordination Drawings: Comply with requirements in Division 01 Section 013100 "Project Management and Coordination."

E. Delegated-Design Submittal: Comply with requirements in Division 01 Section 014000 "Quality Requirements."

F. Contractor's Construction Schedule: Comply with requirements in Division 01 Section 013200 "Construction Progress Documentation" for Project Representative's action.

G. Submittals Schedule: Comply with requirements in Division 01 Section 013200 "Construction Progress Documentation."

H. Application for Payment: Comply with requirements in Division 01 Section 012900 "Payment Procedures."

I. Schedule of Values: Comply with requirements in Division 01 Section 012900 "Payment Procedures."

J. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
   1. Name, address, and telephone number of entity performing subcontract or supplying products.
   2. Number and title of related Specification Section(s) covered by subcontract.
   3. Drawing number and detail references, as appropriate, covered by subcontract.

2.02 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

   1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Engineer will not return copies.

   2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements in Division 01 Section 014000 "Quality Requirements."

B. Contractor's Construction Schedule: Comply with requirements in Division 01 Section 013200 "Construction Progress Documentation."

C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.

D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

J. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.

K. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

L. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.

M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 01 Section 017700 "Closeout Procedures."

O. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

P. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ENGINEER'S ACTION

A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

C. Informational Submittals: Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION
LaBella
Powered by partnership.

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SHOP DRAWING SUBMITTAL FORM

Project Name: __________________________
Project Number: _______________________
Submittal Description: ___________________
Submittal Number: ______________________

Contractor’s Name & Address: __________________________________________________________
Telephone: ___________________ Fax: ___________________

Name & Address of Supplier: ___________________________________________________________

Name of Manufacturer: ______________________________________________________________
Specification Section: _______________________________________________________________
Drawing No./Detail Reference No.: ____________________________________________________

Deviations: 
None: [ ] As Listed: [ ] If No, provide information per Specification

Item as Specified: 
Yes: [ ] No: [ ]

Representation is made to the Owner and Engineer that the Contractor has determined and verified all field measurements and quantities, field construction criteria, materials, catalog numbers, and similar data and that the Contractor has reviewed and coordinated the information in each shop drawing with the requirements of the work and Contract Documents and hereby approves this submittal.

Reviewed and Coordinated By: _______________________________________________________

For Architect/Engineer’s Use Only:

Submittal No. __________________________

☐ REVIEWED – NO EXCEPTIONS TAKEN ☐ SUBMIT SPECIFIED ITEM
☐ REVIEWED – EXCEPTIONS NOTED ☐ REJECTED
☐ REVISE AND RESUBMIT ☐ NOT REVIEWED

This review is only for general conformance with the design concept of the Project and the information given in the Contract Documents. Corrections or comments made on the Shop Documents during this review do not relieve the Contractor from compliance with the requirements of the Contract Documents. The Contractor is solely responsible for, and this review does not include: confirming and correlating all quantities and dimensions; information that pertains to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordinating the Work with that of all other trades; and performing all Work in a safe and satisfactory manner.

LaBella Associates

DATE REVIEWED: ________________ BY: __________________________

Comments: ________________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
PART 1- GENERAL

1.1 Summary

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.2 Related Sections

A. Section 31 25 00 Erosion and Sediment Controls
B. Section 32 15 00 Aggregate Surfacing

1.3 Submittals

A. Site Plan: Prior to the start of work, submit for approval a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation. Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas. Plans indicate where approved areas are to be used and limits of areas that are not to be disturbed.

PART 2- PRODUCTS

2.1 Construction Fence

Provide fencing along the construction site and at all open excavations and tunnels to control access by unauthorized personnel. Safety fencing must be highly visible to be seen by pedestrians and vehicular traffic. Remove the fence upon completion and acceptance of the work.

Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized steel, chain link fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch ID line posts with 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

2.2 Temporary Access Road and Staging Area

Construct access and haul roads necessary for proper prosecution of the work under this Contract. Construct with suitable grades and widths; avoid sharp curves, blind corners, and dangerous cross traffic. Submit haul road plan for approval. Provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. Provide dust control treatment that is not polluting and non-tracking. Location, grade, width, and alignment of construction and haul roads are subject to approval by the Owner/Owner’s Representative.
2.3 Stock Pile Area

Construct Stockpile as indicated on plans with 8oz non-woven geotextile and 4” of NY DOT type 2 or 4 subbase aggregate or equal.

2.4 Temporary Tracking Pad

Construct temporary tracking pad and geotextile fabric over existing turf. Minimize the duration of work in this area and remove tracking pad when not in use. No clearing and grubbing is permissible in Locus 1.

PART 3- EXECUTION

A. Contractor is responsible for security of their property. Provide adequate outside security lighting at the temporary facilities.

B. Construct a temporary 8-foot high chain link fence around materials. Include plastic strip inserts, colored green, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store materials or equipment outside the fenced area unless such materials or equipment are assigned a separate and distinct storage area by the Owner/Owner’s Representative away from the vicinity of the construction site but within the installation boundaries. Equipment or materials must not be open to public view with the exception of those items which are in support of ongoing work on the then-current day.

C. Do not stockpile materials outside the designated area in preparation for the following day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each workday.

D. Remove construction debris, waste materials, packaging material and the like from the work site on a daily basis. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store all salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials that are not being stored in trailers, whether new or salvaged.

E. Upon completion of the project, remove the signs, barricades, haul roads, and all other temporary products from the site. After removal of materials and equipment from within the fenced area, remove the fence. Restore areas used during the performance of the work under the Contract to the original or better condition than that which existed prior to construction commencement. Remove gravel and geotextile fabric used to traverse grassed areas and restore the area to its original condition, including topsoil and seeding as necessary.
SECTION 017000
EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
   2. Field engineering and surveying.
   4. Coordination of Owner-installed products.
   5. Progress cleaning.
   6. Starting and adjusting.
   7. Protection of installed construction.
   8. Correction of the Work.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

B. Section 013300 - Submittal Procedures.

C. Section 017700 - Closeout Procedures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of drainage and electrical systems and other construction affecting the Work.
   1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection or work in proximity of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   a. Description of the Work.
   b. List of detrimental conditions, including substrates.
   c. List of unacceptable installation tolerances.
   d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Engineer, Project Representative and Owner not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on CSI Form 13.2A, "Request for Interpretation."

3.03 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer and Project Representative promptly.
B. General: Lay out the Work using accepted surveying practices, by a licensed land surveyor in New York State.
   1. Establish benchmarks and control points to set lines and levels along the shoreline and elsewhere as needed to locate each element of Project.
   2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
   3. Inform installers of elevations, lines and levels to which they must comply.
   4. Check the location, level and plumb, of every major element as the Work progresses.
   5. Notify Engineer and Project Representative when deviations from required lines and levels exceed allowable tolerances.
   6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer and Project Representative.

3.04 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
   1. Do not change or relocate existing benchmarks or control points without prior written approval of Engineer. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Engineer and Project Representative before proceeding.
   2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
   2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
   3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.05 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of use.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
   1. Allow for movement, including thermal expansion and contraction.

G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.06 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
   2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.07 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.08 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION
SECTION 017123
FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

B. Section 017700 – Closeout Procedures.

1.02 QUALITY ASSURANCE

A. Employ an independent Land Surveyor, licensed to practice in the State of New York, for the duration of the Work, to certify the accuracy of the survey work.

1. The word "independent" as used above means a person not in the regular employment of the Contractor or having any vested interest in the Contractor's business.

1.03 SUBMITTALS

A. Submit the name, address, telephone number, and registration number of the Land Surveyor before starting the survey work.

B. Upon completion of the Work, submit a certificate signed and sealed by the Land Surveyor, stating that the elevations and locations of the Work are in conformance with the Contract Documents.

1.04 PROJECT RECORD DOCUMENTS

A. Maintain a complete and accurate log of control and survey work as it progresses.

B. Record location data for control points in sketch form and turn over copies of sketches and computations to the Engineer.

C. Submit Project Record Documents under provisions of Section 017839.

1.05 TOOLS, EQUIPMENT, AND MATERIALS

A. Furnish all tools, equipment, and materials required to perform the work of this Section.

1.06 EXAMINATION

A. Verify locations of control points prior to starting work.
B. Promptly notify Engineer of any discrepancies discovered.

1.07 CONTROL POINTS
A. Control datum for survey is indicated on the Drawings.
B. Protect control points prior to starting site work; preserve control points during construction.
C. Promptly report to Engineer the loss or destruction of any control point or relocation required because of changes in grades or other reasons.
D. Replace dislocated control points based on original survey control. Make no changes without prior written notice to the Engineer.

1.08 ESTABLISHING CONTROL POINTS
A. Prior to clearing or earthwork operations, install permanent survey markers at the coordinate locations shown on the drawings. Establish and record the exact coordinates of these markers to within one one-hundredth of a foot horizontally.
B. Reference coordinates and elevations to the horizontal and vertical datum provided for this contract.
C. Locate each permanent survey marker from at least 3 points of permanent reference.

1.09 SURVEY REQUIREMENTS
A. Establish a minimum of two permanent survey markers to be used as benchmarks for vertical control on the Site where indicated on the Drawings and referenced to established control points. Record locations, with horizontal and vertical data to within one one-hundredth of a foot, on Project Record Documents.
B. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.
C. Verify disturbed layouts by same means.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 02 61 00
REMOVAL AND DISPOSAL OF CONTAMINATED SOILS

PART 1 - GENERAL

1.1 Scope of Work

Item includes all labor, equipment, materials and safety gear required to excavate, handle, stockpile, temporarily store on site, transport and dispose of soils generated during construction activities that will not be reused on site at Matton Shipyard.

1.2 Summary

A. All work shall comply with the rules and regulations of the Federal Environmental Safety Act, and all other local and State agencies having jurisdiction. Nothing contained herein shall be construed as permitting work that is contrary to such rules, regulations and codes.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve the contractor of responsibility for compliance with the Contract Documents.

C. The Contractor shall be aware of all conditions affecting the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of their obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules and regulations. Where conflicts occur between the Project Documents and applicable codes, rules and regulations, the more stringent requirements shall apply.

1.3 Special Job Conditions

A. Locus Area 1 and Locus Area 2 are archeological sensitive areas. Limits are taken from Hartgen 2017 Phase I Archeological study Map 2. These Areas cannot be disturbed.

B. It is permissible to operate machinery and vehicles within Locus 1 when the existing turf and subgrade is protected and left undisturbed. Traffic is to be minimized.

1.4 Standards and References

A. Federal Regulations

B. 42 USC §6901 et. Seq.
   i. 15 USC §2601
   ii. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
   iii. 29 CFR 1926, "Construction Industry" (OSHA)
   iv. 29 CFR 1926 Subpart P “Excavations”
   v. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
   vi. 49 CFR 171-172, Transportation Standards (DOT)
   vii. 29 CFR 1910.146 Confined Space
   viii. 29 CFR 1926.21 Safety Training and Education

A. New York State Regulations
B. Latest version of the New York State Uniform Fire Prevention and Building Code.


1.5 Permits and Compliance

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and Local laws, rules and regulations pertaining to Work practices, protection of Workers, authorized visitors to the Site, persons, and property adjacent to the Work.

B. Obtain all required permits and notifications for removals (excavation/dewatering), on-site storage, transportation and disposal of contaminated wastes.

C. Perform contaminated soil excavation related Work in accordance with NYS DEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation. Where more stringent requirements are specified, adhere to the more stringent requirements.

D. The Contractor shall comply with all applicable regulations of OSHA in performance of the work and shall take all required precautions to ensure the safety and health of personnel. The Contractor has been provided with information on current Site conditions to allow the Contractor to prepare a Site Health and Safety Plan (HASP) for the execution of the work on this project.

E. The Contractor shall be responsible for compliance with The New York State Uniform Fire Prevention and Building Code, or its successor during all Work at the Site.

1.6 Submittals

A. Pre-Work Submittals: Within seven (7) days prior to the pre-construction conference, the Contractor shall submit an electronic copy of the documents listed below to the Erie Canalway Project Manager, and the Contractor for review and approval prior to the commencement of removal/excavation activities:

   i. The Contractor shall submit a schedule, arranged in chronological order, by dates required by the construction schedule.

   ii. The Contractor shall prepare and submit to the Owner a Health and Safety Plan (HASP) for work associated with any potential contaminated soils at the Site, as defined in Section 1.07. This plan shall address all of the activities which the Contractor will perform in fulfillment of the contract requirements, and shall comply in all aspects with OSHA regulations for solid and hazardous waste operations (29 CFR 1910.120). The Contractor shall make the HASP available to authorized personnel who require access to any contaminated area or exclusion zone. The health and safety of the Contractor's employees remains solely the responsibility of the Contractor.

   iii. An Excavated Soils Management Plan including re-use and disposal options prepared in accordance with applicable laws and regulations.

      1. Work Plan requirements should include a site plan showing stockpile locations and protection methods, soil grid, equipment decontamination locations, excavation methods, dewatering, wastewater storage, and traffic direction at the site for trucks.
iv. The Contractor shall prepare and maintain all material shipment records required by applicable Federal, State, and Local laws and regulations. These records shall include but not be limited to: scale tickets, bill of lading, and manifests. The Contractor shall provide copies of all documentation to the Owner/Owner’s Representative. Drafts of the following documents (as applicable) related to waste soil transport shall be submitted for prior review and approval:

1. A draft shipping document.
2. NYSDEC waste tracking document.
3. NYSDEC Notification of Fill Material Reuse form.
4. NYSDEC Use of Predetermined Beneficial Use Determination form.

v. Transfer Facility Permit (if applicable) and letter of acknowledgement from the Transfer Facility stating they intend to accept the material.

vi. Treatment Facility Permit (if applicable) and letter of acknowledgement from the Treatment Facility stating they intend to accept the material.

vii. Disposal Facility Permit for material disposed of at an off-site facility (if applicable) and letter of acknowledgement from the Disposal Facility stating they intend to accept the material.

viii. Copy of a valid NYSDEC Waste Transporter Permit and permits for any other State(s) the material will travel through to reach the disposal facility.

ix. Valid US DOT permit for hauler, if applicable.

B. On-Site Submittals: The following documentation shall be maintained on-site by the Contractor during site activities at a location approved by the Project Manager.

i. Copy of the Approved Pre-Work Submittal, as described in Item 1.05A.

ii. Health and Safety Plan (HASP) for work associated with any potential contaminated soils at the Site. This plan shall address all of the activities which the Contractor will perform in fulfillment of the contract requirements and shall comply with all aspects of applicable OSHA regulations for solid and hazardous waste operations (29 CFR 1910.120).

iii. Proof of worker training in accordance with OSHA 29 CFR 1910.120 for all workers with the potential to come into contact with contaminated soils and hazardous materials.

iv. Soil Management Plan (SMP). This plan should include, at a minimum: equipment specifications; methods of excavation, wastewater management plan for dewatering, wastewater storage, on-site drainage, and decontamination of equipment; procedures for management of soil designated for off-site disposal; methods for documenting tracking of contaminated soil/material from initial discovery to disposal; methods for removal, loading and transport of the contaminated soil: Certification of clean fill in accordance with NYSDEC if applicable; contractor health and safety procedures including personal certifications; and identification of licensed transporter(s) and disposal facility or facilities to be used by the Contractor.

C. Close-Out Submittals

i. Within two (2) business days of receipt from the facility, the Contractor shall submit copies of all receipts and other paperwork from disposal/treatment facilities which indicate the actual quantity of waste received.
ii. Within 30 days of the completion of the project, the Contractor shall submit 1 electronic copy of the documents listed below to the Erie Canalway Project manager and the Contractor for review and approval prior to Contractor’s final payment. After approval of the electronic close-out submittal, the Contractor shall provide 3 hard copy sets of the approved close-out documents (double-sided and bound) to the Erie Canalway Project Manager, including 1 set to be distributed to the facility including:

1. All Waste Shipment Records, Forms, and Waste Shipment Record Logs.
2. Completed waste tracking documents, as applicable.
3. Daily progress log.
4. Transfer/Treatment/Disposal Site/Landfill Permits from applicable regulatory agency.
5. Copy of NYSDEC Waste Transporter Permit and permits for any other State(s) the material traveled through to reach the disposal facility.

1.7 Pre- Construction Conference

A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre- construction conference attended by the Owner, Facility Personnel, and Contractor.

B. Agenda for this conference shall include but not necessarily be limited to:

i. Contractor's Scope of Work, Work plan, and schedule.

ii. Contractor's safety and health precautions including protective clothing, equipment, and decontamination procedures.

iii. OSHA excavation and trenching requirements if applicable (> 4 feet and > 5 feet in depth, respectively)

iv. Contractor's duties, functions, and authority.

v. Contractor's Work procedures including:

    1. Methods of job site preparation and removal methods.
    2. Contacting Dig Safely New York for Utility Clearance (if necessary).
    3. Equipment and process of initial clearing of vegetation (if necessary).
    4. Process of clearing the construction areas, excavation pathways for subgrade materials, stockpiling soil, separating waste from earthen materials, etc.
    5. Truck loading procedure near active roadway/traffic controls/safety.
    6. Disposal procedures.
    7. Cleanup procedures.
    8. Emergency procedures.

vi. Contractor’s required pre-work and on-site submittals, and documentation.

vii. Contractor's plan for 24-hour Project security both for prevention of theft and for barring entry of unauthorized personnel into work areas.

viii. Waste disposal requirements and procedures
C. In conjunction with the conference, the Contractor shall accompany the Owner and Contractor on a pre-construction walk-through documenting work to be completed at the Site.

1.8 Definitions

A. Wherever the word “excavating”, “excavate”, “excavation”, “carried down”, or “remove” are used, they shall be understood to include the removal of all existing work, including structures, rubble, former foundation remnants, wood/metal/concrete debris, and earth as well as rock, boulders, concrete and all other materials and obstructions encountered. They shall also be understood to include all sheet piling, bracing, pumping, operations and items needed for the proper execution of the work. Excavation is considered unclassified.

B. Rough grading consists of cutting or filling to the elevation established on the Contract Drawings.

C. Material Definitions

i. Non-Hazardous Excavated Contaminated Soil:
Soil that may include or contain mixtures of the following: soil (including, but not limited to, natural undisturbed soil), Clean (below SCOs), and Contaminated (above SCOs). This material includes material that will exceed 6 NYCRR 375-6 Restricted Residential Use Soil Cleanup Objectives and NYSDEC CP-51: Soil Cleanup Guidance Supplemental Soil Cleanup Objectives.

ii. Non-Hazardous Excavated Soil (Clean Fill):
Soil that is at or below the SCOs for unrestricted use. This material includes material defined in Title 6 NYCRR 375-6.3 and does not exceed NYSDEC CP-51: Soil Cleanup Guidance Supplemental Soil Cleanup Objectives.

iii. Petroleum-Contaminated Soil:
Material (soil, concrete, sediment, UST contents, fill, debris, etc.) that meets the NYSDEC STARS Memo #1 definition of petroleum-contaminated material from known source areas. Petroleum-contaminated material shall be evidenced by the following observations and be from a known source area: producing higher than background responses on a portable vapor meter such as a photo ionization detector or flame ionization detector, petroleum-like odor, visual impacts (e.g., staining or discoloration), proximity to known releases from existing or historic petroleum storage tanks or systems, and exceed the soil cleanup levels for gasoline and/or fuel oil contaminated soil provided in the NYSDEC CP-51: Soil Cleanup Guidance. The determination as to whether the excavated material is petroleum-contaminated or is non-petroleum contaminated material will be made by analytical testing of representative material samples. The Contractor shall perform all required testing. The Contractor shall make the final determination as to whether or not the material is petroleum-contaminated and appropriate disposal.

iv. Hazardous Waste:
Material meeting the definition of a Resource Conservation and Recovery Act (RCRA) hazardous waste as defined in 40 CFR Part 261, New York State ECL Item 27-09 or 6 NYCRR Part 371.

1.9 Project Conditions

A. Preliminary waste characterization sampling was completed (see Appendix A). Any additional waste characterization sampling required to complete the excavation and disposal of material generated during the project will be directed by the Contractor and, upon concurrence with the Architect/Owner, will be performed by the Contractor or Contractor.
B. The Contractor, by careful examination, shall inform themselves as to the nature and location of the work; the conformation of the ground; the nature of the subsurface conditions; the locations of the groundwater table; the character, quality and quantity of the materials to be encountered; the character of the equipment and facilities needed prior to and during the execution of the work; and all other matters which can in any way affect the execution of the work.

C. The Contractor shall have visited the site and familiarized themselves with the existing conditions of adjoining properties, utilities and buildings.

D. The Contractor shall investigate the conditions of public thoroughfares and roads as to availability, clearances, loads, limits, restrictions, and other limitations affecting transportation to, ingress and egress of the site of the work. The Contractor shall conform to all Federal, State and Local regulations in regard to the transportation of materials to and from and at the job site and shall secure in advance such permits as may be required.

E. Existing Utilities: The Contractor shall locate existing underground utilities in and beyond the areas of work (if applicable). The Contractor shall mark out the project areas and allot 3 business days for the ticket request to be completed; such off-set time shall be included in the proposed schedule. If utilities are indicated to remain in place, Contractor shall provide adequate means of support and protection during the work.

   i. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, immediately cease excavation activities and consult with the utility owner for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner or compensate the utility companies for repair of same at Contractor’s cost.

   ii. Do not interrupt existing utilities serving facilities occupied by Owner or others, during occupied hours, except when permitted in writing by the Construction Manager and then only after acceptable temporary utility services have been provided. Provide minimum of 48-hour notice to the Construction Manager, and receive written notice to proceed before interrupting any utility.

F. The Contractor shall examine drawings to determine sequence of operations, and relation to work of other trades. Start of work will signify acceptance of field conditions and will acknowledge coordination with other trades.

G. The Contractor shall comply with the Work Plan and associated documentation in the Approved Pre-Work Submittal, all Federal, State and Local environmental regulations, and health and safety regulations, including but not limited to OSHA.

1.10 Protection

A. The work shall be executed so that no damage or injury will occur to the existing public and adjoining or adjacent structures, areas, streets, paving, sewers, gas, water, electric or any other pipes. Should any damage or injury be caused by the Contractor, or anyone in the Contractor’s employ, or by the work under this Contract occur, the Contractor shall repair such damage and shall assume all responsibility for such injury and costs.

B. The above shall also include the protection of all existing utilities (including but not limited to sewers, water lines, electrical lines and telecommunication lines) to remain in use within and adjacent to the area affected by the work of this project.
C. Monuments, benchmarks and other reference features on streets bounding this project shall be protected. Should these be disturbed in any manner, the Contractor shall have them replaced at his own cost.

D. Excavation sides of any pits within the site and adjacent structure foundations shall be protected by means of adequate bracing, shoring and anchoring at all times in accordance with applicable OSHA regulations. No site excavation shall proceed until adequate support for excavation sides is provided. The Contractor is solely responsible for the stability, safety and protection of excavation sides.

E. The Contractor shall provide barricades, warning lights, and barriers to prevent accidents, and to prevent all hazards to protect the public and property at all times, including Saturdays, Sundays, and Holidays.

F. It is the Contractor's responsibility to ensure that contaminated materials will not be spilled, placed, or otherwise discharged into areas other than those specified in the Contract Documents. Any unauthorized placement, spill, or discharge of contaminated material by the Contractor will be completely and properly removed by the Contractor at their own expense.

G. It is the Contractor’s responsibility to ensure that adequate erosion control and stockpile protection measures are put in place and maintained at the Site as indicated on the drawings.

H. Any unauthorized placement, spill, or discharge of contaminated material by the Contractor must be reported immediately to Erie Canalway Project Manager, the Construction Manager, and the Owner's Engineer.

I. All costs associated with repairing any damage will be the Contractor's sole responsibility, and such repairs will be made to the satisfaction of the respective Owner(s).

PART 2 - PRODUCTS

1.1 Stockpiles

Construct stockpiles to isolate stored contaminated material from the environment. Construct Stockpiles to include:

A. A chemically resistant geomembrane liner free of holes and other damage. Provide non-woven geotextile. Provide scrim reinforced nonwoven geotextile liners that have a minimum weight of 8 oz per square yard. Place the geotextile on a ground surface of 4” NY DOT type 2 or 4 subbase aggregate or recycled cement aggregate.

B. Geomembrane 6 mil tarp cover free of holes or other damage to prevent precipitation from entering the stockpile. Provide non-reinforced geomembrane covers that have a minimum thickness of 0.15 mm 6 mils. Extend the cover material over the berms and anchor or ballast to prevent it from being removed or damaged by wind.

C. Berms surrounding the stockpile, a minimum of 16 inches in height. Berm vehicle access points.

D. Slope the liner system to allow collection of leachate. Storage and removal of liquid which collects in the stockpile, in accordance with applicable regulations.

E. Place sandbags as necessary on edge of tarp and top of stock piles at the end of every work day.

1.2 Backfill

A. Obtain backfill material from supplier. Classify backfill in accordance with ASTM D2487 as GW, GP, GM,
GC, SW, SP, SM, SC, ML, MH, CL, or CH. Provide backfill that is free from roots and other organic matter, trash, debris, snow, ice or frozen materials. Test backfill material for the parameters listed below at a frequency of once per 3000 cubic yards. Perform a minimum of one set of classification tests per borrow source. Also collect and test one backfill sample per borrow source for the chemical parameters listed below.

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1.1 Sampling of Stored Materials

A. Collect samples of stored material at a frequency of once per 100 cubic yards. Treat stored material with contaminant levels that exceed the action levels offsite. Analyses for contaminated material to be taken to an offsite treatment facility must conform to local, state, and federal criteria as well as to the requirements of the treatment facility. Furnish documentation of all analyses performed to the Owner/Owner’s Representative. Additional sampling and analyses to the extent required by the approved offsite treatment, storage or disposal (TSD) facility is the responsibility of the Contractor and must be performed at no additional cost.

PART 3- EXECUTION

3.1 General Instructions

A. This Item is a description of responsibilities for proper handling and management of contaminated materials on Site. The requirements of the Contract Documents, including Scope of Work, will apply to the Work in this Item.

B. The Contractor will be required to handle environmentally contaminated materials at the Site in compliance with all Federal, State and Local regulations. Contractor's Work will include handling of these contaminated materials.

i. For the purpose of this Specification, contaminant levels shall be compared to NYSDEC USCOs and RSCOs (NYSDEC Regulation 6 NYCRR Subpart 375-6) and the approved disposal facility acceptance criteria.

C. The Contractor shall create and implement a Community Air Monitoring Plan (CAMP), if required, to manage real-time monitoring for particulates at the upwind and downwind perimeters and adjacent to the nearest structure within the work area when particulate-generating activities are in progress at the Site. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on-site may generate fugitive dust from exposed waste or contaminated soil.
D. Engineering Inspections and Observations:

i. The Owner's Engineer will inspect the movement and handling of all contaminated materials. Contractor will notify Construction Manager and Owner's Engineer a minimum of 72 hours prior to start of Work involving handling of contaminated materials.

ii. Owner's Engineer will observe the contaminated material removal procedures and methods and will notify the Contractor, Construction Manager, and Owner of any part of the Work of this Item not in compliance with these specifications. Such notification will not relieve the Contractor from the responsibility of properly implementing, performing, and maintaining contaminated material removal as specified herein and as required by the Work.

iii. Contractor will cooperate with the Construction Manager and Owner's Engineer to facilitate the progress of the Work.

iv. Contractor will provide at least one supervisory person who must be present at all times during execution of the Work and who is thoroughly familiar with the type of work being performed and its best methods for completion. This person will have the authority to act on behalf of Contractor.

3.2 Soil Characterization

A. Soil Characterization

i. The Contractor shall confirm with the disposal facility that a sufficient quantity of soil samples were obtained to fully characterize the site soils scheduled for disposal prior to removing any soils from the site. The Contractor shall notify the Erie Canalway on-site representative if additional waste characterization samples are needed to satisfy targeted disposal facility requirements. Any additional samples that are required will be collected by the Contractor or on-site Contractor. The results of all waste characterization analyses shall be submitted to NYS Building Code Compliance prior to removal of soils from Site.

ii. In-situ soil characterization should be completed in accordance with the sampling procedures in the Soil Management Plan (SMP), described in Item 3.02 B. of this Specification. Sampling should be biased to soil encountered that exhibits staining, free product and/or elevated photo-ionization detector (PID) readings.

iii. Soils proposed for reuse on-Site will be managed as directed by the Contractor.

B. Uncontaminated, non-hazardous soil (i.e. soil meeting NYSDEC’s Unrestricted Use Soil Cleanup Objectives cited in 6 NYCRR Part 375-6.3) is not subject to approval from NYSDEC’s Division of Hazardous Materials Management. If the material is stockpiled on-Site, it must follow the stockpiling procedures set forth in the SMP.

C. The Contractor shall protect and maintain excavation areas until completion of the work and acceptance by the Contractor. Excavated contaminated soil designated for off-site management may be containerized in roll-off containers at designated area(s), as directed by the Contractor.

3.1 Transportation and Disposal of Excavated Materials

A. All material transportation and disposal shall conform to Item specification 02 81 00.
SECTION 02 81 00
TRANSPORTATION AND DISPOSAL

1.1 Summary

A. Item includes transportation of excavated materials and debris to waste management facility. Contractor will bid on Transportation and Disposal but this Work may be conducted by others.

B. Contractor shall comply with applicable requirements of this Item even if the Transportation and Disposal are provided by others.

C. Contractor shall be solely responsible for proper loading of, and abiding by the load limits and weight limits for all vehicles leaving the Project site, and for any fines, taxes, penalties or judgments resulting from overweight or improperly loaded vehicles.

1.2 Submittals

A. Contractor shall provide a list of proposed waste haulers for approval by Engineer. Contractor shall submit copies of all necessary permits and certifications of listed waste haulers to Engineer before commencing the Work.

B. The Contractor shall submit written certification of proper transport of materials and debris to Engineer within ten working days after receipt of the documentation. Contractor shall submit copies of all waste manifests, Weigh Tickets, and bills of lading.

C. Hazardous Materials:

i. A Substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. Appendix Item 1801 et seq. The term includes materials designated as hazardous materials under the provisions of 49 CFR 172, Items .101 and .102 and materials which meet the defining criteria for hazard classes and divisions in 49 CFR 173. EPA designated hazardous wastes are also hazardous materials.

D. Hazardous Waste

i. A waste which meets criteria established in RCRA or specified by the EPA in 40 CFR 261 or which has been designated as hazardous by a RCRA authorized state program.

1.3 Coordination with Designated Waste Management Facilities

A. The Contractor shall be responsible for coordinating waste shipments with the designated waste management facility.

B. The Contractor shall only ship waste and soil to Owner-approved waste management facilities.

C. The Contractor shall obtain written approval from the Engineer before sending any waste to an off-site disposal facility.
1.4 Shipping Documentation

A. Shipping documentation shall be performed consistent with federal, state, and local waste management and transportation requirements and the requirements of off-site disposal facilities.

B. The Contractor shall prepare necessary paperwork for transportation and disposal of all materials to the appropriate waste management facilities.

C. The Contractor shall not be paid for shipments with unsigned shipping documentation.

D. Daily Trucking Log:

i. The Contractor shall provide a Daily Trucking Log to the Engineer for approval providing information on each off-site shipment from the site, including trucking company, truck and trailer registration number, date, pre-characterization source ID, destination facility, estimated quantity, and Contractor personnel’s initials.

ii. The Contractor shall fill in the Daily Trucking Log for each shipment at the time it leaves the Site.

iii. The Contractor shall not be paid for any shipment if there are discrepancies between Daily Trucking Logs and facility weigh tickets until the discrepancy is resolved, as determined by the Engineer.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.1 Preparation for Transport

A. Contractor shall coordinate Transportation Work with Excavation Work to maintain excavation production rates for completion of the Work in accordance with the Construction Milestones. Slowing or stopping of excavation work by Contractor for reason of lack of transportation or availability of shipping containers will not be acceptable.

B. Loading operations and hours shall be coordinated with the operating hours of landfills or other designated off-site facilities. Loading shall be limited to the hours of 7:00 a.m. to 3:00 p.m., Monday through Friday, or as otherwise specified or approved by the Engineer. Any vehicle loaded after disposal hours shall remain parked at the Project Site in a designated area of the Secured Zone until such time as that truck may reasonably proceed to the designated waste management facility. Contractor shall coordinate excavation, demolition, stockpiling, loading, and transportation, subject to the Engineer’s approval, to efficiently utilize combined resources. Contractor’s operations shall be coordinated to minimize standby time and minimize truck-waiting time, and to maximize excavation production and hauling production.

3.2 Hauling of Materials and Debris

A. Contractor shall furnish and operate all vehicles and containers for transportation of materials from the Project Site.

B. The Contractor shall load and transport all categories of materials and debris.
C. Drivers shall drive directly to disposal facility and shall not stop except in the event of an emergency.

D. Transportation of materials and debris shall be in compliance with all pertinent regulations.

E. Each truck bound for the off-site disposal facility shall be covered with a heavy-duty tarpaulin secured to the top or sides of the container.

F. Contractor shall promptly clean up any spills on haul routes, if they occur, with suitable equipment at no additional cost to the Owner.

G. Contractor shall keep all haul routes and public rights of way free of any site materials due to the Contractor's operations. To this end, all Contractor trucks shall be covered, and all vehicles shall be carefully loaded to prevent site materials from coming in contact with the exterior truck surfaces.

H. The load weight shall be documented by the disposal facility scale Weigh Ticket. Contractor shall submit copies of all disposal facility scale Weigh Tickets to the Engineer. Unsigned scale Weigh Tickets will be rejected and the Contractor will not be paid for such loads.

I. Contractor shall prevent the tracking of site materials onto public rights-of-way.

J. Loaded trucks shall not leave the Site unless they shall arrive at the designated waste management facility before it closes. Loaded trucks shall discharge their loads at the designated waste management facility the same day they leave the site.

3.3 Permits

A. Contractor shall obtain all required transportation permits for shipment of materials and debris.
SECTION 22 14 29
SUMP PUMPS

1.1 Summary

A. This guide specification covers the requirements for automatic, electric-motor-driven, centrifugal, wet-pit and submersible sump pumps up to 10 gpm.

1.2 Submittals

A. Contractor shall provide shop drawings, control diagrams, installation drawings and manufacturer’s data. Submit in the following accordance with Item 01 33 00 Submittal Procedures.

1.3 Delivery, Storage, Handling

A. Inspect the pump for damage or other distress when received at the project site. Store the pump and associated equipment indoors as recommended by the pump manufacturer, protected from construction or weather hazards at the project site. Before installation, provide adequate short-term storage for the pump and equipment in a covered, dry, and ventilated location. Follow the manufacturer's instructions for extended storage.

PART 2- PRODUCTS
Provide a pump and motor with vibration levels conforming to ISO 1940-1 unless otherwise noted. Ensure that motor vibration levels conform to NEMA MG 1, Motors and Generators, Part 7, unless otherwise noted.

2.1 System Description

A. Show details of connection of cables and pump motors on connection diagrams for sump pumps.

B. Submit control diagrams for sump pumps showing motor starters, relays, or any other component necessary for safe operation.

C. Ensure that installation drawings for sump pumps are in accordance with the manufacturer’s recommended instructions.

D. Submit manufacturer's catalog data for sump pumps showing the sump pump size, type, and efficiency rating along with performance data, including pump performance curve, indicating brake horsepower, head, flow rate, and NPSH (net positive suction head). Also include equipment foundation data and equipment data.

E. Provide manufacturer's installation instructions and vibration specifications.

F. Provide a 300 gallon water storage tank for system.
PART 3- EXECUTION

3.1 Installation
A. Install equipment in accordance with manufacturer's recommendations.
B. Remove all debris from the bottom of the sump pit located on the contract drawings. Install a threaded pipe adapter into the threaded pump discharge.
C. Install a line check valve just above the union to prevent backflow of water after each pump cycle.
D. Connect the discharge pipe to the pump.
E. Lower the pump into the pit, making sure the float switch has adequate clearance and will not hang up on the pit wall. See “Typical installation”. The float must be free to move and not come in contact with the pump body, piping, or other objects.
F. Securely tape or clamp power cord to discharge pipe, clear of the float mechanisms.

3.2 Maintenance
A. Fill sump with water.
B. Check for debris and proper switch operation.
C. Remove debris which could clog the suction strainer or jam the switch.
D. Ensure that the switch operates freely and does not hit the sump wall or hang up on piping or power cords.
SECTION 31 00 00
EARTHWORK

PART 1 – GENERAL

1.1 DESCRIPTION

A. Provide facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the work specified in this item, and as shown on the Drawings.

B. Work performed under this Item of the Specifications shall be subject to the General Conditions, Supplementary Conditions and Division 01 General Requirements of the Contract Documents, as well as any applicable provisions of NYSDEC or USACE permits.

C. The work of this item includes but is not necessarily limited to:
   i. Excavation, fill, and backfill, as indicated or required, including compaction.
   ii. Excavation, as required, to the lines and grades indicated on the Drawings.
   iii. Excavation and offsite disposal of unsuitable or excess materials unless on-site locations are designated. Excavation shall include removal and satisfactory disposal of all unclassified material encountered throughout the site.
   iv. Rough grading, including placement, moisture conditioning, and compaction of fills and backfill.
   v. Placement of base and subbase course materials under structures, pavements, slabs, and footings, including compaction
   vi. Trench excavation, bedding, and backfill for structures, foundations, and utilities, including compaction.
   vii. The removal, hauling and stockpiling of suitable excavated materials for subsequent use in the work. Stockpiling shall include protection to maintain materials in a workable condition.
   viii. Rehandling, hauling, and placing of stockpiled materials for use in refilling, filling, backfilling, grading, and such other operations.
   ix. Protection and preservation of all existing structures to remain.
   x. Furnishing and installing all sheeting, shoring, and bracing of structural and trench excavations and its satisfactory removal, unless otherwise directed to have it remain in place.
   xi. Environmental controls
   xii. Providing products in sufficient quantities to meet the project requirements.
   xiii. Providing adequate pumping and drainage facilities to keep the work area sufficiently dry.
   xiv. Obtaining all required permits, licenses, and approvals from appropriate municipal and utility authorities, prior to commencement of the work of this Item, and paying costs incurred therefrom.
D. Provision of facilities, labor, materials, tools, equipment, appliances, and related work necessary to provide and maintain erosion control during construction operations. All erosion control measures shall be installed prior to earthwork operations and shall be maintained according to plans and other items of the specifications.

i. Refer to Item 31 25 00 – EROSION AND SEDIMENTATION CONTROLS

E. Contractor shall be responsible for notifying all affected utility companies before starting work. Comply with the requirements of the New York 811.

1.2 RELATED ITEMS

A. Carefully examine the Contract Documents for requirements which affect the work in this Item. Other Specification Items which directly relate to the work of this Item include, but are not limited to, the following:

i. Item 01 50 00 – TEMPORARY FACILITIES AND CONTROLS
ii. Item 31 10 00 – DEMOLITION AND SITE CLEARING
iii. Item 31 25 00 – EROSION AND SEDIMENTATION CONTROLS
iv. Item 316219.13 MARINE TIMBER PILES
v. Item 32 90 01 – SHORELINE PLANTINGS
vi. Item 329219 – SEEDING
vii. Item 329300 – EXTERIOR PLANTING

1.3 REFERANCE STANDARDS

A. References herein are made in accordance with the listed specific standards of the following organizations and work under this Item shall conform to the latest edition, unless modified by these Specifications.

i. American Association of State Highway and Transportation Officials (AASHTO):
   1. T11 – Standard Method of Test for Materials Finer Than 75-μm (No. 200) Sieve in Mineral Aggregates by Washing

ii. ASTM International (ASTM):
   2. D1557-12 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
iii. American Concrete Institute (ACI):
   1. 229R-13 Report on Controlled Low-Strength Materials
   
iv. US Army Corps of Engineers:
   2. EM 1110-2-1414 “Water Levels and Wave Heights For Coastal Engineering Design.”
   3. EM 1110-2-1614 “Design of Coastal Revetments, Seawalls, and Bulkheads.”
   5. EM 1110-2-2303 “Construction with Large Stone.”
   
v. CIRIA CIRIA C683 “The Rock Manual”
   Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions shall be deemed to be mandatory under this Contract.

1.4 LAWS AND REGULATIONS

A. Work shall be accomplished in accordance with regulations of local, county, state and federal agencies or utility company standards as they apply.

1.5 QUALITY ASSURANCE

A. The Owner may retain and pay for the services of an independent testing and inspection firm and/or a Geotechnical Consultant to perform on-site observation and testing during the various phases of the construction operations. The scope of services will be determined by the Owner and the independent testing and inspection firm and/or the Geotechnical Consultant, and results will be provided to the Contractor. The Owner reserves the right to modify or waive the services of the independent testing and inspection firm and/or the Geotechnical Consultant. The services of an independent testing firm and/or Geotechnical Consultant may include, but not necessarily be limited to, the following:

i. Observation during excavation and dewatering of controlled fill areas.
ii. Laboratory testing and analysis of fill materials as specified herein and proposed by the Contractor for incorporation into the Work.
iii. Observation of construction and performance of water content, gradation and compaction tests at a frequency and locations that the independent testing and inspection firm and/or the Geotechnical Consultant may require. The results of these tests will be submitted to the Owner, Engineer, and Contractor on a timely basis so that action can be taken to remedy indicated deficiencies. During the course of construction, the independent testing and inspection firm and/or the Geotechnical Consultant will advise the Owner in writing, if at any time in their opinion, the Work hereunder is of unacceptable quality. Failure of independent testing and inspection firm and/or the Geotechnical Consultant to give notice, shall not excuse the Contractor from latent defects discovered in their work.
B. The Contractor shall make provisions for allowing observations and testing of Contractor’s work by the independent testing and inspection firm and/or the Geotechnical Consultant.

   i. The presence of the independent testing and inspection firm and/or the Geotechnical Consultant does not include supervision or direction of the actual work of the Contractor, and their employees or agents. Neither the presence of the independent testing and inspection firm and/or the Geotechnical Consultant, nor any observations and testing performed by them, nor failure to give notice of defects shall excuse the Contractor from defects discovered in their work.

C. Costs related to retesting due to unacceptable qualities of work and failures discovered by testing shall be paid for by the Contractor at no additional expense to Owner, and the costs thereof will be deducted by the Owner from the Contract Sum.

D. Whenever floodplain or wetland compensation areas are designated on the plans, grading elevations are to be considered critical to the volumetric calculations and shall be constructed by the Contractor in strict conformance with the indicated grades.

E. Quality Control & Tests for Stone Materials: Quarry stone shall be in accordance with the weight, sizes, and gradations specified herein.

   i. Certificates of material properties and compliance with specified requirements may be submitted in lieu of testing, when acceptable to the Engineer.

   ii. Bedding stone shall be tested and meet the requirements put forth by AASHTO #1.

   iii. Stone Testing Service: Employ a testing laboratory to perform material evaluation tests.

   iv. Materials and installed work may require testing and retesting, as directed by the Engineer, at any time during progress of work. The costs of all testing and retesting of rejected materials shall be included in the cost of this Item.

1.6 SUBMITTALS

A. Submit, in an airtight container for the testing laboratory, a 50-pound sample of each type of off-site fill material that is to be used at the site. Submit samples a minimum of one week prior to use of proposed material at the site. Submit samples to the testing laboratory and/or the Geotechnical Consultant (copy of these transmittal forms shall be simultaneously sent to Engineer) or if no testing laboratory and/or Geotechnical Consultant is identified, then the Engineer shall be the recipient of the samples. Use of these proposed materials by the Contractor prior to testing and approval shall be at the Contractor’s risk.

B. The Engineer will determine the suitability of all materials.

C. Submit the name of each material supplier and specific type and source of each material. Any change in source throughout the project will require approval of the Owner or Engineer.
D. For use of geotextile fabrics or geogrids, submit manufacturer's product data including material properties for approval by the Engineer.

E. Material Certificates: Provide material certificates signed by manufacturer and Contractor, certifying that the material complies with, or exceeds, specified requirements. Laboratory test reports may be submitted in lieu of material certificates when permitted by the Engineer.

1.7 COORDINATION

A. Prior to start of earthwork the Contractor shall arrange an on-site meeting with the Engineer, the Owner’s Representative, the independent testing firm, and/or the Geotechnical Consultant for the purpose of establishing the Contractor's schedule of operations and scheduling observation and testing procedures and requirements.

B. As construction proceeds, the Contractor shall be responsible for notifying the Owner and Engineer prior to the start of earthwork operations requiring observation and/or testing.

1.8 SUBSURFACE SOIL DATA

A. A preliminary geotechnical engineering report has been prepared by Hartgen Archeological Associates dated February 2017. This report is specifically not part of the Contract Documents but is available to bidders for informational purposes.

B. Review available logs of borings, test pit logs, jar soil samples, records of explorations and other pertinent data for the site. After obtaining Owner's permission, take whatever additional subsurface explorations deemed necessary at no expense to the Owner.

C. Boring logs [are appended to these specifications.] Jar soil samples may be examined upon written request to the Engineer.

D. Subsurface soil data is provided for general information and is accurate only at the particular locations and times the subsurface explorations were made. It is the Contractor's responsibility to make interpretations and to draw conclusions based on the character of materials to be encountered and the impact on their work based on their expert knowledge of the area and of earthwork techniques.

E. The Drawings in the geotechnical report showing existing ground elevations are only for whatever use the Contractor may make of them with no responsibility on the part of the engineers, surveyors, the Owner, the Engineer, and/or their representatives for the accuracy and/or the reliability of the information given.

F. If a potential conflict exists between the Geotechnical Report and these technical Specifications, the Contractor shall, immediately upon discovery thereof, request clarification from the Owner’s Representative or the Engineer.
PART 2- PRODUCTS

2.1 SUBGRADE

A. Subgrade is the material in excavation (cuts) and fills located below subbase, base course layer for slabs, sidewalks, pavement, and other improvements.

2.2 COMMON FILL/ ORDINARY BORROW

A. Common Fill/Ordinary Borrow shall be friable soil containing no stone greater than two-thirds (2/3) the loose lift thickness with a maximum stone size of twelve (12) inches in diameter. The material shall be essentially free of trash, ice snow, tree stumps, roots, and organic materials. The soil shall contain no more than 10 percent passing the #200 sieve.

2.3 GRAVEL

A. Gravel shall consist of inert material that is hard, durable stone and coarse sand, free from loam, clay, surface coatings and deleterious materials, and shall conform to the following gradation:

<table>
<thead>
<tr>
<th>Sieve (ASTM D422)</th>
<th>Percent Passing by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>100</td>
</tr>
<tr>
<td>½-inch</td>
<td>50 – 85</td>
</tr>
<tr>
<td>No. 4</td>
<td>40 – 75</td>
</tr>
<tr>
<td>No. 50</td>
<td>8-28</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 – 10</td>
</tr>
</tbody>
</table>

* Three (3) inches when placed as subgrade within four (4) feet below pavements and slabs in accordance with NYSDOT standards.

2.4 SAND

A. Sand shall consist of clean, inert, hard, durable grains of quartz or other hard, durable rock, free from loam or clay, surface coatings and deleterious materials.

i. The allowable amount of material passing a No. 200 sieve as determined by AASHTO- T11 or ASTM D422 shall not exceed 10 percent by weight. The maximum particle size shall be ¼-inch (i.e., 100 percent passing the No. 4 sieve).

2.5 CRUSHED STONE

A. Crushed Stone shall be composed of durable crushed rock consisting of angular fragments, free from a detrimental quantity of thin, flat, elongated pieces or shall be durable crushed gravel stone obtained by artificial crushing of gravel boulders or fieldstone.
i. The crushed stone shall be free from clay, loam, or deleterious material.

ii. Crushed stone shall conform to the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>3/8-inch Stone</th>
<th>½-inch Stone</th>
<th>¾-inch Stone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>¾ inch</td>
<td>-</td>
<td>-</td>
<td>90 – 100</td>
</tr>
<tr>
<td>5/8 inch</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>½ inch</td>
<td>100</td>
<td>85 – 100</td>
<td>10 – 50</td>
</tr>
<tr>
<td>3/8 inch</td>
<td>85-100</td>
<td>15 – 45</td>
<td>0 – 20</td>
</tr>
<tr>
<td>No. 4</td>
<td>10-30</td>
<td>0 – 15</td>
<td>0 – 5</td>
</tr>
<tr>
<td>No. 8</td>
<td>10 (max)</td>
<td>0 – 5</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>1-1/2-inch Stone</th>
<th>2-inch Stone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inch</td>
<td>100</td>
<td>90 – 100</td>
</tr>
<tr>
<td>1-1/2 inch</td>
<td>95 – 100</td>
<td>-</td>
</tr>
<tr>
<td>1-1/4 inch</td>
<td>-</td>
<td>25 – 50</td>
</tr>
<tr>
<td>1 inch</td>
<td>35 – 70</td>
<td>-</td>
</tr>
<tr>
<td>¾ inch</td>
<td>0 – 25</td>
<td>0 – 15</td>
</tr>
<tr>
<td>½ inch</td>
<td>-</td>
<td>0 – 5</td>
</tr>
</tbody>
</table>

B. Dense-graded Crushed Stone for Subbase and Base shall conform to the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing by Weight 2-inch Stone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inch</td>
<td>100</td>
</tr>
<tr>
<td>1-1/2 inch</td>
<td>70 – 100</td>
</tr>
<tr>
<td>¾ inch</td>
<td>50 – 85</td>
</tr>
<tr>
<td>No. 4</td>
<td>30 – 55</td>
</tr>
<tr>
<td>No. 50</td>
<td>8 – 24</td>
</tr>
<tr>
<td>No. 200</td>
<td>3 – 10</td>
</tr>
</tbody>
</table>

C. Washed Crushed Stone for Stormwater Recharge shall be composed of durable crushed rock consisting of angular fragments, free from a detrimental quantity of thin, flat, elongated pieces or shall be durable crushed gravel stone obtained by artificial crushing of gravel boulders or fieldstone. The crushed stone shall be free from clay, loam, or deleterious material.

i. Washed Crushed Stone for Stormwater Recharge shall conform to the following gradation:
### AASHTO Designations:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 inch</td>
<td>100</td>
</tr>
<tr>
<td>2- 1/2 inch</td>
<td>100 90-100</td>
</tr>
<tr>
<td>2 inch</td>
<td>90-100 35-70</td>
</tr>
<tr>
<td>1- 1/2 inch</td>
<td>100 35-70 0-15</td>
</tr>
<tr>
<td>1 inch</td>
<td>95-100 0-15 0-5</td>
</tr>
<tr>
<td>1/2 inch</td>
<td>25-60 0-5</td>
</tr>
<tr>
<td>No. 4</td>
<td>0-10</td>
</tr>
<tr>
<td>No. 8</td>
<td>0-5</td>
</tr>
</tbody>
</table>

### D. Double-Washed Crushed Stone for Wastewater Soil Absorption Systems shall be composed of durable crushed rock consisting of angular fragments, free from a detrimental quantity of thin, flat, elongated pieces, or shall be durable crushed gravel stone obtained by artificial crushing of gravel boulders or fieldstone. The crushed stone shall be free from clay, loam, or deleterious material.

i) Double-Washed Crushed Stone for Wastewater Soil Absorption Systems shall conform to the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inch</td>
<td>100 - 100</td>
</tr>
<tr>
<td>1-1/2 inch</td>
<td>95 – 100</td>
</tr>
<tr>
<td>1-1/4 inch</td>
<td>45 – 80</td>
</tr>
<tr>
<td>1 inch</td>
<td>35 – 70</td>
</tr>
<tr>
<td>3/4 inch</td>
<td>0 – 25</td>
</tr>
<tr>
<td>1/2 inch</td>
<td>0 – 5</td>
</tr>
<tr>
<td>3/8 inch</td>
<td>0</td>
</tr>
<tr>
<td>No. 4</td>
<td>-</td>
</tr>
<tr>
<td>No. 8</td>
<td>-</td>
</tr>
<tr>
<td>No. 40</td>
<td>-</td>
</tr>
</tbody>
</table>

### 2.6 STRUCTURAL FILL
A. Structural Fill shall be free from ice and snow, roots, sod, rubbish and other deleterious or organic matter. Structural Fill shall conform to the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>100</td>
</tr>
<tr>
<td>No. 4</td>
<td>30 - 95</td>
</tr>
<tr>
<td>No. 40</td>
<td>10 - 70</td>
</tr>
<tr>
<td>No. 200</td>
<td>0-15</td>
</tr>
</tbody>
</table>

*Two thirds (2/3) of the loose lift thickness

2.7 FILTER FABRIC AND GEOTEXTILES

A. Filter Fabric used with stone backfill, slope paving, crushed stone and granular soils or where indicated on plans shall be as Mirafi N Series or approved equivalent.

B. Filter Fabric used for prevention of soil intrusion into drains or to assist in stabilizing soil subgrades shall be Mirafi 140N or approved equivalent.

2.8 STORMWATER EMBANKMENT FILL

A. Stormwater Embankment Fill shall be low permeability fill capable of being placed and compacted to provide an in-situ permeability rate of not more than 1.0 x 10^-5 cm/sec.

2.7 PLANTING AND SOIL MIXES

A. See Item 32 90 00 and Item 32 92 19 for specifications.

2.8 WETLAND SOILS AND ORGANIC MATERIALS

A. Natural Wetland Soils shall be obtained from nearby wetland impact areas. Only soils from the top 18-inches within designated wetland areas may be used as wetland soils in the wetland replication areas. Wetland soils may be highly organic in nature, such as a peat soil, or contain a high mineral content. Therefore, there is no specific standard for the composition of wetland soils. Wetland soils stripped from the wetland impact areas for use in the wetland replication areas shall be free of large stones, stumps, large sticks, shrubs or other litter.

B. Man-made Wetland Soils may be prepared by amending natural topsoil with peat moss or leaf mold, at a ratio of 75 percent soil to 25 percent organic material by volume. The resulting soil mix shall be free of large stones, stumps, large sticks, shrubs, or other litter.

C. Peat Moss shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. Peat moss shall be free from wood, decomposed colloidal residue and other foreign matter. Peat moss shall have a pH in the acidity range of 5.5 to 7.6, as determined in
accordance with the testing methods of A.O.A.C., latest edition. The water absorbing ability of the peat moss shall be a minimum of 100 percent by weight on an oven-dry basis.

D. Leaf Mold shall be a highly organic dark brown to black spongy residue resulting from the well aerated composting of deciduous tree parts, free of plants and their roots, debris, and other extraneous matter and shall be uncontaminated by foreign matter and substances harmful to plant growth. The organic matter shall not be less than 85 percent by weight as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 16 degrees C. The inorganic residue after ignition shall not be finer textured than 4 percent by weight passing the number 200 sieve with washing.

2.9 BIORETENTION SOILS

A. Bioretention Soil shall be a loose uniform mix, free of stones, stumps, roots or other similar objects larger than two (2) inches in diameter, and without material toxic to plant growth.

B. The bioretention soil shall be free of noxious or invasive weeds including the following: Knotweed, Phragmites, Purple Loosestrife, Bermuda grass, Quackgrass, Johnson grass, Mugwort, Nutsedge, Poison Ivy, Canadian Thistle, or Tearthumb.

C. Bioretention soil may be manufactured using a blend of sand with amendment.

D. Bioretention soil shall meet the following laboratory test parameters:

   i. pH 6.0 – 7.0
   ii. Moisture Content 25% - 55%
   iii. Organic Matter Content 6% - 12% (dry weight basis) Soluble Salts 2.0 mmhos (dS) maximum
   iv. Stone and Debris < 5% (by weight)
   v. Foreign Matter < 0.05% (by weight)
   vi. Infiltration Rate 2.0-4.0 in/hr

E. The bioretention soil shall meet the following mechanical analysis, as determined using ASTM D422 Standard Test Method for Particle-Size Analysis of Soils.

   i. Textural Class % of Total Weight Gravel (greater than 2 mm)
   ii. < 15%
   iii. Sand (0.05 – 2.0 mm) > 85%
   iv. Silt (0.002 – 0.05 mm) < 10%
   v. Clay (less than 0.002 mm) < 5%
F. Permeability: Bioretention Soil shall have a minimum permeability of 2 inches per hour, as determined by ASTM D2434 Standard Test Method for Permeability of Granular Soils.

G. Organic amendment. The compost for organic amendment shall be laboratory-tested and approved for use.

H. Soil Test Reports

i. Provide names and location of all sources of all compost, sand and other borrow suppliers, prior to ordering material. In addition, for bioretention soil mixture materials, submit soil test reports to the Owner’s Representative for review and approval.

ii. All compost shall be certified by a laboratory capable of providing testing as specified herein.

iii. Soil testing shall be incidental to the cost of this item. Submit Soil Test Reports accompanied by a one-pound representative sample of the soil at least one month before any soil spreading is scheduled. Contractor shall be responsible for timely procurement of results, including any costs for expedited testing.

iv. Do not order materials until approval has been obtained. Delivered materials shall be from the same source as the tested material.

v. The Contractor shall employ a certified testing laboratory to test the material and shall submit test representative samples of bioretention soil mixture reports to the Owner’s Representative. Reports shall include:

vi. Tests for Phosphorus, Nitrogen, Potassium, Calcium, Soluble Salts, soil pH, Moisture Content, Organic Matter Content, and soil texture analysis in accordance with the current standards of the Association of Official Agriculture Chemists.

vii. Tests shall include a soil particle gradation analysis and permeability rate for the bioretention soil mixture.

2.11 COBBLE-GRAVEL-SAND CHANNEL BED MATERIAL

A. Channel bed material shall meet the gradation requirements specified below. Contractor shall provide the supplier with the material size distribution matrix so the supplier may evaluate what combinations of currently available products will meet the specified distribution.

<table>
<thead>
<tr>
<th>Material Composition</th>
<th>Material</th>
<th>Size</th>
<th>Quantity (Volume)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobble Bank Run Gravel</td>
<td>Well Graded 2-5&quot;</td>
<td>2 buckets</td>
<td>35-40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.08-2.5&quot; (2-64mm)</td>
<td>2 buckets</td>
<td>35-40%</td>
<td></td>
</tr>
<tr>
<td>Coarse Sand</td>
<td>0.04-0.08&quot; (1-2mm)</td>
<td>1 bucket</td>
<td>20-25%</td>
<td></td>
</tr>
</tbody>
</table>
B. Cobble-Gravel void ratio is estimated at over 20%. Therefore, coarse sand shall be added to the imported Cobble-Gravel-Sand material prior to placement in the stream reach.

C. The material color shall blend with the existing streambed material. All bed material shall be free from laminations, weak cleavages and will not disintegrate from the action of air, water and in handling and placing. Granular sedimentary stone will generally be unacceptable.

PART 3- EXECUTION

3.1 USE OF MATERIALS

A. Use of materials shall be as described below and as shown on the plans. Combinations or layering of materials may be necessary in certain instances such as for detention embankments and subsurface disposal areas as examples.

i. Common/Ordinary Fill: Use common/ordinary fill for general grading as backfill, and as embankment fill in areas outside the limits. Stones larger than twelve inches (12”) shall be removed prior to compaction.

ii. Gravel: Use for bedding backfill and backfill as indicated on plans.

iii. Crushed Stone: Use crushed stone as a filter material as indicated on contract drawings.


v. Double Washed 1-1/2 Inch Crushed Stone: Use double washed 1-1/2 inch crushed stone in soil absorption facilities for wastewater disposal systems, recharge filters, and as a filter material.

vi. 2 Inch Crushed Stone: Use double 2-inch crushed stone in soil absorption facilities for wastewater disposal systems, recharge filters, and as a filter material.

vii. Structural Fill: Use structural fill below subgrade elevation and soil bearing situations. Use structural fills below parking gravel base course.

viii. Stone Fill: Use stone fill as additional storage medium for underground stormwater exfiltration trenches or pits.

ix. Filter Fabric: Filter Fabric is to be used as a filter barrier between drainage wastewater absorption systems, and between natural earth material and backfill or other materials to assist in stabilizing soil subgrades.

x. Slope Paving: Use stone for slope paving to prevent slope de-stabilization, erosion, and to protect slope faces where indicated on the Drawings or where slopes of steeper than 2:1 are created due to site work.

xi. Filter Stone Layer: Use filter stone layer under geotextiles and geomembranes or where indicated.

xii. Topsoil: Use as fill in designated landscape and lawn areas; if off-site material is required, loam shall be furnished and installed. Topsoil maybe used as fill in landscape and lawn areas if an excess of topsoil exists on-site.

xiii. Wetland Soil/Organic Materials: Use a wetland soils in wetland replication areas.
3.2 DEWATERING

A. Provide, operate, and maintain site and subsurface drainage and dewatering in an acceptable manner as required to complete the work throughout the course of the project.

B. Remove, by pumping or other means, water accumulated in excavations and within two (2) feet below subgrade until earthwork and other work operations are complete. Dewatering shall be considered incidental to the work items and no separate payment shall be made to the Contractor for dewatering operations.

C. Provide, maintain, and operate wells, pumps, and related equipment including stand-by equipment of sufficient capacity to maintain excavations and trenches free of water 24 hours per day to enable all work to be conducted in-the-dry and to protect bearing surfaces from disturbance.

D. Water from excavations shall be disposed of in such manner as will not cause injury to public health, public and private property, existing work, work to be completed or in progress, roads, walks, and streets, or cause any interference with use of same by public. Concrete or fill shall not be placed in excavations containing free water.

E. Construction may require excavation below water level in soil. The Contractor shall complete this work in-the-dry to maintain the undisturbed condition of the bearing soil.

F. If the dewatering methods have not been adequate and the bearing soils are disturbed, remove disturbed soil and replace with compacted Structural Fill or lean concrete at no additional cost to the Owner.

G. Sumps shall be surrounded by suitable filter media to minimize the fines removed during pumping.

H. Pumped groundwater and surface water runoff shall be initially pumped to a settling basin to remove suspended solids prior to discharge. The Contractor shall furnish all treatment systems that are necessary for pretreatment of groundwater prior to discharge in accordance with all applicable permits and regulations. All permits shall be obtained by the Contractor.

3.3 EXCAVATION- GENERAL

A. General Definitions

   i. Unclassified Materials

      Unclassified excavation includes the satisfactory removal and disposal of all materials (except contaminated materials defined below) encountered regardless of the nature of the materials and shall be understood to include, but not be limited to, blast rock, bedrock, earth, hardpan, fill, foundations, pavements, cobblestones, footings, bricks, concrete, abandoned drainage and utility structures, timber piles, and debris. Drilling, blasting, excavation, and disposal of rock shall be considered unclassified excavation and shall be included as a part of the Contract Price, with no separate payment items for its excavation and handling.

   ii. Classification of Materials

      1. Unclassified. Unclassified excavation shall comprise and include the satisfactory removal and disposal of all materials encountered regardless of the nature of the materials, except for rock excavation and contaminated materials as defined below, and shall be understood
to include, but not be limited to, earth, hardpan, fill, foundations, pavements, curbs, piping, railroad track and ties, cobblestones, footings, bricks, concrete, abandoned drainage and utility structures, and debris.

iii. Contaminated Materials

1. The Contractor shall be familiar and comply with all applicable NYSDEC, State and Federal Regulations for handling, transport, and disposal of Contaminated Soils when conducting earthwork operations.

2. In general, a hazardous waste (contaminated with oil or hazardous materials) is a waste or combination of wastes which, because of its quantity, concentration, physical, chemical or infectious characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety, or welfare, or to the environment when improperly stored, treated, transported, or disposed of, or otherwise managed. (Additional criteria and characteristics to determine if a waste is hazardous are contained in 310 CMR 30.111, 30.112 and 30.120 through 30.125).

3. The Contractor shall immediately halt soil movement activities and notify the Owner if visual, olfactory, or other evidence suggests that soils may be contaminated with oil or hazardous materials. Contractor shall provide reasonable assistance to Owner and to Owner’s Representative for access to potential contamination areas for proper assessment of hazardous conditions.

4. The Owner will contact an environmental professional (such as a Licensed Site Professional) to test any earth materials suspected of containing hazardous waste. The results shall be evaluated by the environmental professional and compared with reporting thresholds per the local authority having jurisdiction. The Owner will inform the Contractor of the laboratory test results as soon as possible and discuss the possible soil management, disposal, and recycling options available. Contaminated soils shall be managed and handled in compliance with the referenced state & federal regulations, guidelines, and policies. Time and expenses associated with contaminated soils shall be negotiated between the Contractor and the Owner prior to the start of the soil management, soil disposal, and recycling work. Owner reserves the right to negotiate and contract with other entities for remedial work and, in that event, this Contractor shall make reasonable accommodations for other entities to perform this work.

5. Appropriate testing, as recommended by an environmental professional shall be accomplished to assess the potential presence of oil or hazardous material. Earth material shall not be removed from the site unless on-site reuse is not possible.

6. Proper documentation of legal disposal of hazardous materials handled by this Contractor shall be provided by the Contractor to the Owner, Engineer, and review authorities.

7. Unless specifically identified as contaminated material under referenced statues and as defined above, as judged by the Engineer, excavated materials shall be considered unclassified as defined in Item 1.a above.

B. Site General Requirements
i. Control the grading so that ground is pitched to prevent water from running to excavated areas, damaging other structures, or adjacent properties.

ii. Where soil has been softened or eroded by flooding, equipment, traffic, or placement during unfavorable weather, or other conditions, it shall be removed and replaced by the Contractor with suitable material, at no additional cost to the Owner.

iii. Exercise care to preserve the material below and beyond the lines of excavation. Where excavation is carried out below indicated grade or beyond the lines of excavation, Contractor shall backfill and compact the over excavation with structural fill to the indicated grade, at no additional cost to the Owner and at the direction of the Engineer.

iv. Provide sheeting, shoring and bracing to complete and protect all excavated areas, as required for safety and compliance with OSHA. Costs for sheeting, shoring, and bracing shall be included as a part of the Contract Price for completing the work and Owner will make no separate payment for this work.

v. Excavated materials unsuitable for reuse, surplus excavated rock, and surplus excavated soil not used to fulfill requirements of the Contract shall become the property of the Contractor and shall be removed from the site in accordance with the regulations and requirements of all municipalities or agencies having jurisdiction over the disposal sites and the route between the project and the disposal sites.

vi. Limits of excavation shall be such that all unsuitable material shall be removed to firm natural ground in the manner specified below:

1. Unsuitable materials shall be removed to and placed in areas for stockpiling as indicated on plans.

vii. Unsuitable materials which are classified as organics such as peat, trash, fill, stumps, debris, material determined to be hazardous, and topsoil and subsoil when determined by Engineer to be unacceptable for incorporation into the work shall be removed from the site in accordance with the regulations and requirements of all municipalities or agencies having jurisdiction over the disposal sites and the route between the project and the disposal sites.

viii. Suitable material, as determined by the Engineer, may be reused on the site provided it meets the gradation requirements for the given materials as specified under 2.0 Products.

ix. The Contractor shall not over-excavate below proposed design grades for the purpose of obtaining borrow for use off-site.

C. Proof Rolling

i. Prior to placing compacted fills, the Contractor shall proof roll the natural grades to remain. Where materials of low density are indicated by rutting or weaving under the compactor, the Contractor may be required to make up to three (3) additional complete passes of the area with the compactor as determined by the Engineer. The cost of all proof rolling shall be included in
the Contract Price. If materials of low density are encountered that cannot be compacted to the extent necessary to support the proposed embankment fills as determined by the Engineer, the Contractor shall remove those materials and replace them with compacted fill.

ii. Alternately, an initial layer of fill may be allowed to form a working platform. The need, manner of construction, and thickness of such a layer shall be subject to approval of the Engineer and the layer will be permitted only where the lack of support is, as determined by the Engineer, not due to deficient ditching, grading or drainage practices, or where the embankment could be constructed in the approved manner by the use of different equipment or procedures. Thickness of up to eighteen inches (18") may be permitted for such a layer.

3.4 SHEETING SHORING AND BRACING

A. General

i. Whenever sheeting, shoring, and bracing will be required, it shall be furnished and installed by the Contractor in accordance with State and Federal guidelines, regulations and the recommendations of the structural engineer and/or geotechnical engineer engaged by the Contractor.

ii. When required, the Contractor shall engage licensed professional structural engineer and/or geotechnical engineer to design sheeting, shoring, and bracing. These engineers shall be licensed in the state where the work is occurring and they shall prepare designs for the sheeting and bracing.

iii. Submit the sheeting and bracing designs to the Owner and the Engineer for the project record. The sheeting and bracing plans and calculations shall bear the professional seals and signatures of the Contractor’s engineers. These plans and calculations shall be submitted prior to the start of work.

iv. The Contractor shall furnish and install the required sheeting, shoring and bracing in accord with the submitted designs. The Contractor shall include the costs for this work in their bid price for the project. No additional or separate compensation will be allowed.

3.5 TRENCH EXCAVATION

A. Excavate as necessary for all related structures and appurtenances, and for any other trenching necessary to complete the work.

B. Definitions:

i. Trench shall be defined as an excavation of any length where the width is less than twice the depth and where the shortest distance between payment lines does not exceed ten feet (10'). All other excavations shall be defined as open excavations.
C. In general, machine excavation of trenches will be permitted with the exception of undisturbed areas to remain. Excavation to final grade shall be made in such a manner as to maintain the undisturbed bearing character of the soils exposed at the excavation level.

D. Remove unsuitable material encountered at subgrade elevations, backfill with material specified herein and as otherwise indicated on the Drawings, specified, or directed. Compact as specified with approved compaction equipment.

3.6 PREPARATION OF EXCAVATION BOTTOMS

A. General Rock Subgrade Areas

i. Rock surfaces to receive backfill shall have a maximum slope of four (4) horizontal to one (1) vertical.

B. Subgrades under Proposed Landscape Areas

i. Depth to rock under planting areas shall be a minimum of 48 inches (48") below subgrade elevations. Backfill up to subgrade shall be done with clean fill.

ii. In lawn areas, scarify subsoil a minimum depth of six inches (6"). Subsoil shall also be cleared of debris and stones larger than four inches (4") prior to topsoil spreading.

iii. In planting areas, scarify subsoil a minimum depth of six inches (6") below the required root ball excavation prior to placement of plant backfill mixture.

C. Trenches

i. Compaction equipment used in open areas where space permits shall consist of vibratory rollers, fully loaded ten-wheel dump trucks, pneumatic compactors, or other similar equipment.

ii. Compaction equipment for fill against foundation walls and in other confined areas shall be accomplished by means of drum-type, power-driven, hand-guided vibratory compactors operating at 2,000 cycles per minute, or by hand-guided vibratory plate tampers.

3.7 BACKFILLING AND PLACEMENT OF FILL MATERIALS

A. Site

i. Dewater subgrade areas prior to filling.

ii. Compaction by puddling or jetting is prohibited.
iii. Control groundwater and surface runoff to minimize disturbance of exposed natural ground surface, previously placed and compacted fill and material being placed.

iv. Soil fill moisture shall be maintained at an acceptable working range to allow for proper compaction.

v. Do not place fill on frozen ground.

vi. Do not place frozen fill.

vii. Place fill in uniform horizontal layers and compact immediately after placement. Where the horizontal layer meets a rising slope, the layer shall be keyed into the slope by cutting a bench during spreading of preceding lift.

viii. To the extent that is practical, each layer of fill shall be compacted to the specified density the same day it is placed.

ix. Slope fill surfaces at the end of each day to provide for free surface drainage.

x. Placement of fill shall not begin prior to observation and approval of subgrade conditions by Engineer.

xi. Protect piles and waterproofing during backfilling. Any damage is to be repaired by the Contractor at no cost to Owner.

xii. Prior to backfilling between embankment and timber piles, remove unsuitable material, including rubbish, organic materials, or other debris. Do not commence filling operations until conditions have been observed and approved by Engineer.

xiii. Backfill shall not be placed against walls until they are braced or have cured sufficiently to develop strength necessary to withstand, without damage, pressure from backfilling and compacting operations.

xiv. Provide shoring, sheeting, and bracing of excavations as required to assure complete safety against collapse of the earth at the site of excavations. Alternatively, lay back excavations to suitable slope.

xv. Upon completion of the work, the final ground surface shall be left in a firm, unyielding, true, uniform condition free from ruts. Repair disturbed areas caused equipment traffic at no additional cost to Owner.

B. Equipment

i. Compaction equipment used in open areas where space permits shall consist of vibratory rollers, fully loaded ten-wheel dump trucks, pneumatic compactors, or other similar equipment.
ii. Compaction equipment for fill against foundation walls and in other confined areas shall be accomplished by means of drum-type, power-driven, hand-guided vibratory compactors operating at 2,000 cycles per minute, or by hand-guided vibratory plate tampers.

C. Placing Fill

i. Fill items and embankments shall be constructed of earth, rock, or a mixture of earth and rock deposited in successive lifts. Except as hereinafter permitted, the loose thickness of each lift shall not be more than twelve inches (12”) before compaction.

ii. No rock in excess of six inches (6”) in its largest dimension shall be incorporated in the top two foot (2’') layer of embankment immediately below the subgrade.

iii. During fill and embankment construction operations, earth moving equipment shall be routed as evenly as possible over the entire width of the work.

iv. At the close of each day’s work, the working surface shall be crowned, shaped, and rolled with smooth steel or pneumatic tired rollers to ensure proper drainage.

v. Prior to placing compacted structural fill, the surface of natural ground shall be proof-rolled with a heavy vibratory drum roller or a fully loaded ten-wheel dump truck. Hard and soft spots shall be excavated and replaced with structural fill or other material acceptable to the Owner’s Representative.

D. N/A.

E. Subgrades under Proposed Landscape Areas

i. Fills under tree and shrub planting areas shall be backfilled with topsoil materials. See Item 32 92 19 for additional specifications.

F. Revetments

i. General

1. Areas to be protected by revetment shall be free of brush, trees, stumps, and other organic material and be dressed to a smooth surface. All soft or spongy material shall be removed to the depth shown on the plans or as directed by the Engineer and replaced with approved materials.

2. A toe trench shall be dug and maintained until the revetment is placed.

3. Protection for structure foundations shall be provided as early as the foundation construction permits.

4. The area to be protected shall be cleaned of waste materials and the surface to be protected shall be prepared as shown on the plans.
5. Where shown on the plans, compacted clean fill shall be placed in the area behind timber piling wall and shoreline to depth indicated on the drawings.

3.8 TRENCH BACKFILL

A. General

i. Trenches shall be backfilled as soon as practicable with suitable approved materials. All trench backfilling shall be done with special care, in the following manner and as the Engineer may direct from time to time.

ii. Trench backfilling shall be placed so as not to disturb the previously installed structures, and other work within and near the trench. The moisture content of the backfill material shall be such that proper compaction will be obtained. Backfill of trenches within areas of pavement construction shall be made in controlled compacted lifts extending to grades required to establish the proper pavement base courses.

iii. In backfilling trenches, each layer of backfill material shall be adequately compacted in such a manner as to provide the required bearing value, so that paving can proceed immediately after backfilling is completed.

iv. Any trenches or excavations improperly backfilled, or where settlement occurs, shall be reopened to the depth required for proper compaction, then refilled and compacted with the surface restored to the required grade and condition, at no additional cost to the Owner.

B. Embedment

i. The type of materials to be used in bedding and backfilling shall conform to the details shown on the Drawings and the following:

ii. Embedment materials are those used for bedding, haunching and initial backfill. Perform in accordance with ASTM D2321. The following will describe the soils:

1. Class I - Angular crushed stone or rock, dense or open graded with little or no fines (3/4-inch stone size) (to be used in wet conditions or where shown on the Drawings).

2. Class II - Clean, coarse-grained gravel, with a maximum stone size of 1-1/2 inches.

3. Embedment materials shall be free from lumps of frozen soil or ice when placed. Embedment materials shall be placed and compacted at optimum moisture content.

iii. Initial Backfill: Initial backfill materials are required as indicated on plans.

1. Class I materials must be used in wet trenches and Class I bedding and haunching materials shall be used.
2. Class II materials shall be used unless noted otherwise or wet conditions are encountered. The material shall be compacted in 6 inch (6") lifts to 95 percent modified proctor density (ASTM D1557).

3. Flooding or jetting as a procedure for compaction are not allowed.

iv. Vehicular and Construction Loads: Temporary access roads shall be suitable to carry H-25 live loads (40,000 lbs. axle - legal load) with 12 inches (12") of cover.

3.9 BACKFILL AGAINST STRUCTURES

A. The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads (including construction loads) to which they will be subjected, without distortion, cracking or other damage. As soon as practicable after the structures are structurally adequate and other necessary work has been satisfactorily completed, any leakage tests or other testing of the structures shall be made by the Contractor, as required by the Engineer, at the Contractor's expense.

i. After the satisfactory completion of leakage tests and the satisfactory completion of any other required work in connection with the structures, the backfilling around the structures shall proceed using suitable and approved excavation material. The highest quality portion of the backfill material shall be used for backfilling within 2 feet (2’) of the structure. Just prior to placing backfill, the areas shall be cleaned of all excess construction material and debris and the bottom of excavations shall be in a thoroughly compacted condition.

B. Symmetrical backfill loading shall be maintained. Special care shall be taken to prevent any wedging action or eccentric loading upon or against the structures.

i) During backfilling operations, care shall be exercised that the equipment used will not overload the structures in passing over and compacting these fills. Except as otherwise specified or directed, backfill shall be placed in layers not more than 12 inches (12") in loose depth and each layer of backfill shall be compacted thoroughly and evenly using approved types of mechanical equipment. Each pass of the equipment shall cover the entire area of each layer of backfill.

C. In compacting and other operations, the Contractor shall conduct their operations in a manner to prevent damage to structures due to passage of heavy equipment over and adjacent to structures. Any such structural damage shall be repaired by the Contractor at no additional cost to the Owner.

D. After backfilling the Contractor shall maintain the surfaces of backfill areas in good condition so as to present a smooth surface at all times level with adjacent surfaces. The Contractor shall repair any subsequent settling over backfilled areas immediately, in a manner satisfactory to the Engineer, and such maintenance shall be provided by the Contractor for the life of this Contract, at no additional cost to the Owner.

E. The finished subgrade of the filled excavations upon which pavements are to be constructed shall not be disturbed by traffic of other operations and shall be maintained in a satisfactory condition until the finished courses are placed. The storage or stockpiling of materials on finished subgrade will not be permitted.
F. Uniformly smooth grade all areas to be graded, as indicated including excavated items and all areas disturbed as a result of the Contractor's operations. The finished surfaces shall be reasonably smooth, compacted and free from surface irregularities.

3.10 COMPACTION

A. Compaction Requirements

i. The degree of compaction is expressed as a percentage of the maximum dry density at optimum moisture content as determined by ASTM D1557, Method C. The compaction requirements are as follows:

<table>
<thead>
<tr>
<th>Area of Compaction</th>
<th>Minimum Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement base course</td>
<td>95%</td>
</tr>
<tr>
<td>Pavement subbase</td>
<td>95%</td>
</tr>
<tr>
<td>General fill below pavement subbase</td>
<td>90%</td>
</tr>
<tr>
<td>Trench backfill</td>
<td>92%</td>
</tr>
<tr>
<td>Lawn areas</td>
<td>90%</td>
</tr>
</tbody>
</table>

ii. Compaction percentages are based on the laboratory derived Maximum Density Values.

B. Moisture Control

i. Fill that is too wet for proper compaction shall be harrowed or otherwise dried to a proper moisture content to allow compaction to the required density. If fill cannot be dried within 24 hours of placement, it shall be removed and replaced with drier fill.

ii. Fill that is too dry for proper compaction shall receive water uniformly applied over the surface of the loose layer. Sufficient water shall be added to allow compaction to the required density.

iii. In no case shall fill be placed over material that is frozen. No fill material shall be placed, spread, or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, fill operations shall not be resumed until the moisture content and the density of the previously placed fill are as specified.

C. Lift Thickness of Material

i. Structural Fill and Sand Borrow. Place in layers not to exceed 12 inches (12") in thickness when utilizing heavy compaction equipment, and 6 inches (6") when utilizing light hand-operated compaction equipment.

ii. Common Fill. Place in layers not to exceed 12 inches (12") in thickness when utilizing heavy compaction equipment, and 8 inches (8") when utilizing light hand-operated compaction equipment.
iii. Crushed Stone, Gravel, Dense, Graded Crushed Stone for Subbase. Place in layers not to exceed 9 inches (9") in thickness when utilizing heavy compaction equipment, and 6 inches (6") when utilizing light hand-operated compacted equipment. Compact with a minimum of four (4) coverages of acceptable compaction equipment.

3.11 PROTECTION OF FILL

A. Protection of compacted fill shall be the responsibility of the Contractor. Newly graded areas shall be protected from the actions of the elements and traffic. Any settlement or washing that occurs prior to acceptance of the work shall be repaired and grades shall be established to the required elevations and slopes. Damage to any compacted lift (including those lifts previously tested and approved by the Engineer) occurring at any time during the course of construction, which is caused by equipment, moisture entering the embankment, or from any other cause, shall be fully repaired by the Contractor prior to placement of overlying materials, at no additional cost to Owner and to the complete satisfaction of the Engineer.

B. In the event of and prior to the commencement of heavy rains, the Contractor shall suspend fill operations immediately and shall take all necessary steps to keep the site as well drained as possible. Fill operations shall not be resumed until the moisture content of the fill is such as to permit compliance with the Specifications.

C. All corrective work or operations necessary to maintain proper moisture control of the fill material shall be at the expense of the Contractor.

3.12 GRADING TOLERANCES

A. Grading shall be completed to meet or exceed the following tolerances of uniformity*:

<table>
<thead>
<tr>
<th>Location</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top of Subgrade Beneath Structure</td>
<td>½ inch</td>
</tr>
<tr>
<td>Top of Subgrade Beneath Paving</td>
<td>½ inch</td>
</tr>
<tr>
<td>Top of Subgrade Beneath Landscaping</td>
<td>1 inch</td>
</tr>
<tr>
<td>Areas</td>
<td></td>
</tr>
<tr>
<td>Top of Gravel and Gravel Base</td>
<td>¼ inch</td>
</tr>
</tbody>
</table>

*Uniformity is defined as no variations in the surface materials at the grades and slopes indicated on the Drawings that exceed the listed tolerance over a length of ten feet (10’) horizontally in any direction.

3.13 CLOSING ABANDONED UNDERGROUND UTILITIES

A. The Contractor shall close open ends of abandoned underground utilities indicated to remain, permanently with closures sufficiently strong enough to withstand pressures which may result after closing.
B. The Contractor shall close open ends of concrete and masonry utilities with not less than 8 inch thick brick masonry bulkheads, constructed to completely fill the opening.

3.13 MAINTENANCE

A. Protection of Graded Areas: The Contractor shall protect newly graded areas from traffic and erosion and shall repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances. The Contractor shall keep newly graded areas free of trash and debris.

B. The Work shall be sequenced to minimize disturbance of completed areas.

C. Where completed areas are disturbed by subsequent project operations or adverse weather, the Contractor shall fill and reshape eroded areas until acceptance of the Work.

3.14 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. The Contractor shall remove waste materials, including excess and unacceptable excavated material, trash and debris, and legally dispose of it off the Owner's property.
SECTION 31 05 19
FILTER FABRIC

PART 1- GENERAL

1.1 DESCRIPTION

A. The work covered by this item consists of furnishing all labor, equipment, and materials and performing all operations required to complete the installation of filter fabric as depicted in the Contract Drawings in strict accordance with these Specifications, contract documents, and any and all subsequent addenda or additions thereto.

1.2 RELATED ITEMS

A. Other Specification Items which directly relate to the work of this Item include:
   i. Item 31 25 00- EROSION AND SEDIMENTATION CONTROLS

1.3 SUBMITTALS

A. Before installing the filter fabric, the Contractor shall submit a certificate or affidavit signed by a legally-authorized representative of the company manufacturing the fabric. The certificate shall state that the chemical, physical, and manufacturing requirements of this Specification are met.

PART 2- PRODUCTS

2.1 MATERIALS

A. The plastic filter fabric shall be porous, plastic sheets woven, calendared and palmered filament yarn. The plastic yarn shall consist of a long-chain synthetic polymer composed of at least 85% by weight of propylene, ethylene, ester, amide or vinylidene chloride, and shall contain stabilizers and/or inhibitors added to the base plastic if necessary, to make the filaments resistant to deterioration due to ultra-violet and heat exposure. The fabric shall conform to the following minimum requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOS</td>
<td>ASTM D-4751</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D-4632</td>
<td>370 x 250 lbs</td>
</tr>
<tr>
<td>Burst Strength</td>
<td>ASTM D-3786</td>
<td>450 psi</td>
</tr>
<tr>
<td>Puncture Strength</td>
<td>ASTM D-4833</td>
<td>120 lbs.</td>
</tr>
<tr>
<td>Seam Breaking Strength</td>
<td>ASTM D-4884</td>
<td>&gt; 90%</td>
</tr>
<tr>
<td>Permittivity</td>
<td>ASTM D-4491</td>
<td>0.28 Sec-1</td>
</tr>
<tr>
<td>Flow Rate</td>
<td>ASTM D-4491-85</td>
<td>18gal/min/ft</td>
</tr>
<tr>
<td>Ultra Violet</td>
<td>ASTM D-4355</td>
<td>&gt; 90% retained strength</td>
</tr>
</tbody>
</table>

B. Seams: Seams of cloth shall be sewn with thread meeting or exceeding specifications given for plastic yarn and shall be bonded by cementing or calendaring. Seams shall be
tested in accordance with method ASTM D-1683, and the seam strength shall meet the strength specified herein but shall not be less than 90% of the tensile strength of the imaged cloth in any principal direction.

C. Securing pins: Securing pins shall be 3/16 inch in diameter, of steel pointed on one end, and such that the head retains a steel washer 1.5 inches in diameter or more. Pins shall be no less than 18 inches in length. Alternate anchoring methods may be used, subject to approval by the Owner.

PART 3- EXECUTION

3.1 PLACEMENT OF FILTER FABRIC

A. The strips of plastic filter fabric shall be spread parallel to the major axis of the structure on the prepared foundation. The cloth shall be loosely laid (not stretched). Rolls of as great a length as is economical for the Contractor to handle shall be used whenever possible in order to minimize the number of overlaps perpendicular to the major axis of the structure. The fabric shall be securely fastened in place to prevent slippage during construction with securing pins placed thirty (30) inches apart each way. Existing angular stones greater than one (1) inch in the largest dimension shall be removed prior to placement of filter cloth to prevent damage to the filter fabric. Filter fabric shall not extend beyond the limit of the structures.

B. Adequate precaution shall be taken to prevent damage to the plastic filter fabric from placement of overlaying materials. No stone will be dropped onto the filter fabric. Any filter fabric damaged or displaced before or during placement of overlaying materials shall be replaced or repaired to the satisfaction of the Owner or the Engineer at the Contractor's expense.
SECTION 31 05 19 13
GEOTEXTILES

1.1 SUMMARY
A. Work specified in this Item includes, but is not necessarily limited to, furnishing all labor, materials, and equipment for the installation of geotextiles as specified herein and as shown on the Drawings.

1.2 QUALITY CONTROL
A. The Geotextile Manufacturer shall be responsible for the production of geotextile rolls and shall be a well-established firm with more than two years of experience in the manufacturing of geotextile filters and cushions. The Geotextile Manufacturer shall submit a statement to the Engineer listing:
   i. Certified minimum average roll property values of the proposed geotextiles and the tests used to determine those properties

1.3 SUBMITTALS
A. Geotextile for Timber Piling Wall
   i. Manufacturer’s Data: The Contractor shall submit manufacturer’s data with sufficient detail to demonstrate compliance with the requirements of this specification.

   ii. Samples: The Contractor shall furnish two labeled (2) samples, six inch by six inch (6” x 6”) minimum, of the geotextile intended for use in the work. The label shall include the manufacturer’s product name, the type of fabric, and the weight of grade of the material. Geotextiles used in the work shall conform to the approved samples.

PART 2- PRODUCTS

2.1 GEOTEXTILE PROPERTIES
A. Unless otherwise noted, the Geotextile Supplier shall furnish materials whose "Minimum Average Roll Values" as defined by the Federal Highway Administration (FHWA) meet or exceed the criteria specified in this Part 2 of this Item. The Geotextile Supplier shall provide test results for these procedures, as well as a certification that the material properties meet or exceed the specified values. The geotextiles provided by the Geotextile Supplier shall be stock products. The Geotextile Supplier shall not furnish products specifically manufactured to meet the specifications of this project unless authorized by the Engineer.

B. The woven products (as specified) shall be manufactured from continuous filaments or staple fibers.

C. The Geotextile Supplier shall submit documentation that the geotextiles meet the property values listed in this Part 2 of this Item and that the geotextiles will:
   i. Retain their structure during handling, placement, and long-term service; and
   ii. Be capable of withstanding direct exposure to sunlight for a maximum of exposure period
of 30 days between lay down and cover with no measurable deterioration.

D. The minimum test values identified in this Item are based on current manufacturers specifications and may change based on future manufacturer's guaranteed minimum test values.

2.2 Non-Woven Filter Fabric for Separation

A. Non-woven filter fabric material shall be used for all separation layer applications (ex. construction stabilized entrance). Non-woven filter fabric material shall be used to prevent soil intrusion into drains and/or assist in stabilizing soil subgrades to be laid on approved soil subgrades prior to placement of fill materials.

B. The non-woven filter fabric shall be Mirafi 140N or equivalent filter fabric. The Non-woven filter fabric shall meet the requirements of Standard Specification for Geotextile Specification for Highway Applications (ASHTO Designation: M 288) for a Class 3 fabric. The material shall conform to the following minimum average roll values (weakest principal direction) requirements:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TEST METHOD</th>
<th>REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength</td>
<td>ASTM D 4632</td>
<td>120 (lbs)</td>
</tr>
<tr>
<td>Grab Tensile Elongation</td>
<td>ASTM D 4632</td>
<td>50 (%)</td>
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<tr>
<td>Trapezoidal Tear Strength</td>
<td>ASTM D 4533</td>
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<tr>
<td>CBR Puncture Strength</td>
<td>ASTM D 6241</td>
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<td>Apparent Opening Size</td>
<td>ASTM D 4751</td>
<td>70 (U.S. Sieve)</td>
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<td>Permittivity</td>
<td>ASTM D 4491</td>
<td>1.7 (sec-1)</td>
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<tr>
<td>Flow Rate</td>
<td>ASTM D4491</td>
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<tr>
<td>UV Resistance (at 500 hours)</td>
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<td>70 (% strength retained)</td>
</tr>
<tr>
<td>Grab Tensile Strength</td>
<td>ASTM D 4632</td>
<td>121</td>
</tr>
</tbody>
</table>

2.3 PACKING AND LABELING

A. Geotextiles shall be supplied in rolls wrapped in relatively impermeable and opaque protective covers.

B. The Manufacturer shall identify all rolls of geotextiles with the following information:
i. Manufacturer's name

ii. Product Identification

iii. Lot Number

iv. Roll Number

v. Roll Dimensions

C. Transportation

i. Transportation of the geotextiles is the responsibility of the Contractor. The Contractor shall be liable for all damages to the materials incurred prior to and during transportation to the site.

2.3 Handling and Storage

A. Handling, unloading, storage, and care of the geotextiles prior to, during and following installation are the responsibility of the Contractor. The Contractor shall be liable for all damage to the materials incurred prior to final acceptance of the Contractor’s work by the Engineer.

B. The geotextile shall be protected from moisture, direct exposure to sunlight, puncture, or other damaging or deleterious conditions. The geotextile shall be protected from mud, dirt and dust. Any additional storage procedures required by the Geotextile Supplier shall be the Contractor’s responsibility and shall be performed by the Contractor at no additional cost to the Owner.

PART 3 - EXECUTION

3.1 Geotextile for Timber Piling Wall

A. For stabilization applications the ground shall be prepared by removing stumps and other organic material, along with any large boulders and sharp objects which may tear or damage the fabric. After the ground has been prepared, the fabric shall be rolled directly behind the timber piles. All seams shall be overlapped approximately six (6") inches. No equipment, materials or machinery shall be placed on or be transported over exposed fabric. Topsoil, backfill or other general fill shall then be carefully placed to prevent dislocation of the fabric as shown on the Drawings.

B. If the fabric is damaged during installation, the rupture shall be removed, and the damaged area shall be covered with a patch of new fabric which will overlap the undamaged fabric approximately six (6") inches in all directions. All repaired fabric surface costs will be deemed part of the price bid for this work.

3.2 Handling and Placement

A. All geotextile shall be handled in a manner intended to prevent damage to the geotextile.

B. Precautions shall be taken to prevent damage to underlying layers during placement of the geotextile.

C. After unwrapping the geotextile from its opaque cover, the geotextile shall not be left exposed for a period in excess of 30 days unless a longer exposure period is approved by the Engineer, based on a formal demonstration from the Geotextile Supplier that the geotextile is stabilized.
against U.V. degradation for a period in excess of 30 days. Any material not accepted under this paragraph shall be replaced by the responsible party at no cost to the Owner.

D. Care shall be taken not to entrap stones, excessive dust, or moisture in the geotextile during placement.

E. All geotextiles shall be anchored with ballast during windy conditions. Such ballasts shall be installed during placement and shall remain until the geotextiles are weighted with permanent backfill, as shown on the Drawings.

F. Surfaces to be covered with geotextile shall be examined before deployment by the Contractor and shall examine the deployed geotextile surface after installation to ensure that no potentially harmful foreign objects are present either above or below the geotextile. Foreign objects shall be removed and damaged geotextile shall be replaced at no additional cost to the Owner.

G. Adjacent sections of geotextile shall be overlapped a minimum of six (6) inches unless noted otherwise or as directed by the Engineer.

3.3 Repair

A. Any holes or tears in the geotextile shall be repaired by the Contractor as follows:

   i. On slopes steeper than 10 horizontal to 1 vertical, a patch made from the same geotextile shall be double seamed into place (with each seam 0.5 in. (12 mm) apart and no closer than 1 in. (25 mm) from any edge). Should any tear exceed 10 percent of the width of the roll, that roll shall be removed from the slope and replaced with new material.

   ii. On slopes flatter than 10 horizontal to 1 vertical, a patch made from the same geotextile shall be continuously sewn in place with a minimum of 2 ft (600 mm) overlap in all directions.

B. Care shall be taken by the Contractor to remove any soil or other material which may have penetrated the torn geotextile.

3.4 Placement of Soil Materials

A. The Contractor shall place all soil materials on top of a geotextile in a manner such:

   i. The geotextile and underlying materials are not damaged;

   ii. Minimum slippage occurs between the geotextile and underlying layers during placement; and

   iii. Excess stresses are not induced in the geotextile.

   iv. Equipment shall not be driven directly on the geotextiles.

3.5 Product Protection

A. The Contractor shall use all means necessary to protect all prior work and materials and completed work of other Items.

B. In the event of damage, the Contractor shall immediately make all repairs and replacements
necessary, to the approval of the Engineer and at no additional cost to the Owner.

3.6 Safety

All geotextile installation shall be performed in accordance with all applicable OSHA regulations and the Health and Safety Plan for the project.
SECTION 31 10 00
DEMOLITION AND SITE CLEARING

PART 1 – GENERAL

1.1 DESCRIPTION

A. This Item specifies requirements for site clearing including demolition of site structures.

B. The work includes but is not necessarily limited to, furnishing all labor, materials, and equipment for:

   i. Demolition, removal and disposal of existing features within the limits shown on the Plans. This includes, but is not limited to, structures, wood piling bulkhead, metal debris, concrete/wood debris, etc.

   ii. Protection of existing vegetation to remain

   iii. Protection of steel sheet piling wall to remain.

   iv. Clearing, staging, stockpiling, loading, and disposal of vegetation, stumps, and roots.

   v. Selective clearing, thinning, and tree removal.

   vi. Removal, abandonment, and storage of existing utilities as required for construction.

   vii. Removal and storing of existing site furnishings to be remain that is impacted during construction.

   viii. Transportation and disposal of material from clearing, grubbing, thinning, stripping, and demolition to approved off-site disposal areas.

   ix. Filling of voids and excavations resulting from the work.

   x. Protection of stored items to be reused. Items damaged while being stored shall be replaced in-kind by the Contractor at no additional cost to the Owner.

C. No trees shall be removed without the Engineer’s approval. Any trees removed without Engineer approval shall be replaced by the Contractor at no additional cost to the Owner.

1.2 References

A. American National Standards Institute (ANSI)

B. ANSI A10.6: 1983 Demolition Operations - Safety Requirements

1.3 Related Items

A. Other Specification Items which directly relate to the work of this Item include but are not limited to:
i. Item 31 25 00 – EROSION AND SEDIMENTATION CONTROLS

ii. Item 31 00 00 – EARTHWORK

1.4 Site Conditions

A. Site conditions existing during the bidding period will be maintained by the Owner insofar as practical.

B. Actual site condition variations that differ from those of the bidding period and which affect site clearing operations shall be brought to the attention of the Owner prior to the commencement of any site work.

1.5 Submittals

A. The Contractor shall submit the following information to the Engineer for review before commencing work:

   i. Demolition Plan including operational sequence.
      1. Procedures for careful removal and disposal of the on-site structures.
      2. A detailed description of methods and equipment to be used for each operation and of the sequence of operations.
      3. Coordination with other work in progress.
      4. Methods of dust control.
      5. Methods of noise control.
      6. Shoring and bracing of any existing structures that are to remain as according to the Plans.
      7. Pedestrian and vehicular traffic and parking control.
      8. Statements affirming Contractor provisions for securing the safety of the workers throughout the performance of the work.

   ii. The Contractor’s schedule shall provide for the following:
      1. Uninterrupted progress of Owner’s on-site operations.
      2. Coordination with the Owner’s continuing utilization of the site.

   iii. All permits and notices authorizing site clearing and demolition.

   iv. Certificates of utility service severances.

   v. Permits for transport and disposal of debris.

   vi. Calculations as necessary.

1.6 Regulatory and Safety Requirements

A. The Contractor shall comply with Federal and State regulations for demolition. Safety requirements shall conform to ANSI A10.6, “Demolition Operations - Safety Requirements.”
1.7 Quality Control
   A. The Contractor shall perform site clearing and demolition in a manner that does not disturb existing structures, utilities, or other facilities not indicated to be removed.

1.8 Dust and Debris Control
   A. The Contractor shall minimize the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in dangerous or otherwise objectionable conditions such as, but not limited to, ice, flooding, or pollution.

1.9 Protection
   A. Traffic Control Signs: Where pedestrian and driver safety are endangered in the area of removal work, the Contractor shall use traffic barricades with flashing lights and other barriers suitable for restricting access to the work area.
   B. Existing Work: The Contractor shall protect existing work which is to remain in place, be reused, or remain the property of the Owner.
   C. Facilities: The Contractor shall protect electrical and mechanical services and utilities. If utilities are encountered and the Engineer specifies their removal, the Contractor shall provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.

1.10 Areas to be Cleared
   A. The Contractor shall complete demolition, clearing, grubbing, and stripping as specified in this Item and as shown on the Plans. No clearing, grubbing or excavation may occur in Locus Area 1 or Locus Area 2.

PART 2-PRODUCTS

2.1 Tree Protection Fencing
   A. Tree protection fencing shall be an orange plastic web fence, 4 feet high minimum. Wood stakes shall be six (6) foot long by 1 inch by 1 inch square driven a minimum of two (2) feet into the ground. Posts shall be spaced eight (8) feet on center, maximum.

PART 3- EXECUTION

3.1 Protection
   A. The Contractor shall flag the limits of clearing shown on the drawings by accurate field survey with marked stakes or other means acceptable to the Engineer. Trees to remain shall be clearly identified during this staking process. The Engineer shall be notified a minimum of five (5) working days prior to scheduled commencement of clearing operations to review the flagged limits. Adjust the clearing limits as directed by the Engineer.
   B. Alignment stakes, grade stakes, witness stakes, boundary markers, benchmarks, and tie points shall be preserved until such time as their usefulness has ceased and permission for their destruction is given by the Engineer.
C. Before clearing begins, protect designated trees to remain with tree protection fencing to the approximate diameter of foliage (dripline of the tree) to prevent damage to the trunk, foliage and root system by construction equipment and procedures. The Contractor shall maintain temporary fencing and remove only when construction is complete.

D. The Contractor shall not deface, injure or destroy trees or shrubs, nor remove or cut them without permission. Ropes, cables or guys shall not be fastened to or attached to trees for anchorage unless approved for emergency use. Where such special emergency use is permitted, the Contractor shall wrap the trunk with burlap or rags, and tie softwood cleats over wrapping. The Contractor shall be responsible for any damage resulting from such use.

E. Where trees may possibly be defaced, bruised, injured, or damaged by equipment, dumping or other operations, the Contractor shall protect such trees by placing boards, planks, or poles around them.

F. The Contractor shall protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. The Contractor shall protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

G. The Contractor shall not store construction materials, debris, or excavated material inside tree protection zones. The Contractor shall not permit vehicles or foot traffic within tree protection zones and shall prevent soil compaction over root systems.

H. Place tree protection fencing as required to protect other plants, adjacent property areas to remain uncleared, monuments, and existing improvements from damage.

I. The Contractor shall repair or replace immediately any damage to existing trees or root systems that are to remain. The Contractor shall employ an ISA Certified arborist to determine the repair and replacement requirements and methods for approval by the Engineer.

J. Replace damaged shrubs and other vegetation designated to remain with the same size and species.

K. The tree protection fencing shall be maintained for the duration of construction operations. The work shall include immediate replacement of any damaged fence. Fencing shall be removed from the site only at the completion of construction operations. The fencing disposal shall be in accordance with local, state, and federal laws and regulations for the disposal of the material.

3.2 Tree Removal

A. Tree removal shall consist of the felling, trimming, and cutting of trees and the satisfactory disposal of the resulting waste materials.

B. Depressions, excavations and voids resulting from the removal of stumps or roots shall be filled with suitable material and compacted as specified under Item 31 30 00 – EARTHWORK.

3.3 Tree Repair and Replacement

A. The Contractor shall promptly repair trees damaged by construction operations within 24 hours at no additional cost to Owner or Engineer. Trimming or pruning shall be performed in an approved manner. Trimming with axes will not be permitted.
B. The Contractor shall plant, maintain and warranty for 2 years new trees as directed by the Engineer from the date of substantial completion at no additional cost to the Owner.

3.4 Utilities

A. The Contractor shall notify all corporations, companies, individuals, or local authorities owning or having jurisdiction over utilities running to, through, or across areas to be affected by site clearing operations.

B. If there is a need for interruption of services the following conditions shall apply:
   i. Seven working days notice shall be required prior to interrupting utility services.
   ii. Written permission must be granted by the Owner prior to interrupting utility services.
   iii. Temporary services may be required prior to interrupting utility services.

C. Before starting, the Contractor shall locate and identify existing utilities that are to remain and protect them from damage during construction operations.

D. On discovery of any conditions deviating from what is shown on the Plans, the Contractor is to immediately notify the Engineer and shall not proceed until written direction is received.

E. Utility service disconnections are to be performed in accordance with the requirements of the utility owner.

3.5 Clearing and Grubbing

A. Clearing shall include cutting, removal, and off-site disposal of trees, bushes, shrubs, fallen timber, brush, refuse, trash, fencing and other incidental materials not required for reuse on the site.

B. Clearing shall also include the removal and disposal of debris, refuse, or structures that obstruct, encroach upon, or otherwise obstruct the Work, including existing riprap or armoring within areas designated for clearing.

C. Brush and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such vegetation as may be indicated or directed to be left standing.

D. The Contractor shall grub the area within the clearing limits to completely remove and dispose of stumps and root systems (roots larger than 3 inches in diameter), except for those to remain (all stumps and roots to remain).

E. Material to be grubbed, together with logs and other organic material not suitable for subgrade purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed.

F. Depressions, excavations and voids resulting from the removal of stumps or roots shall be filled with suitable material and compacted as specified under Item 31 30 00 – EARTHWORK.

3.6 Selective Clearing and Thinning

A. Selective clearing and thinning shall be completed as directed by the Engineer.
B. The work shall include the removal of dead and diseased tree limbs and plants, and pruning and removal of live vegetation that interferes with the growth of other trees and plants. Areas of dense growth shall be thinned to provide room for healthy growth.

3.7 Stripping

A. Stripping shall consist of the removal of grass to a depth of at least 3 inches and removal of all topsoil and organic soils to a minimum depth of 6 inches.

B. The Contractor shall remove grass before stripping topsoil.

C. The Contractor shall strip and stockpile topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

D. The Contractor shall remove subsoil and non-soil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.

3.8 Demolition Requirements

A. The Contractor shall perform all work in accordance with all applicable rules, regulations, codes and ordinances of local, state and federal authorities as well as public utilities having jurisdiction over the work and the Contractor shall notify all such agencies before commencing work. In addition, the Contractor shall call Dig Safe at 1-888-344-7233 at least 72 hours before work commences.

B. The Contractor shall confirm the exact location of all utility lines, equipment and conduits to remain and shall protect and support those encountered during the course of work. The Contractor shall be responsible for any damage resulting from construction operations. Where repairs are necessary to maintain or reestablish those items to remain in service, the Contractor shall bear all expenses related thereto.

C. When existing active services are encountered that require relocation, the Contractor shall request in writing for a determination. The Contractor shall not proceed until written directions are received.

D. The Contractor shall provide all flagmen, barricades, lighting and other measures necessary to provide safe conditions at or around the project work.

E. On discovery of any unknown utilities during demolition/excavation work, the Contractor shall immediately notify the proper utility supplier and the Engineer.

F. Conduct demolition operations in a manner that will prevent damage to adjacent structures, utilities, pavements and other facilities to remain.

G. Cease operations immediately if any damage, settlement or other adverse effect on adjacent structures occurs. However, if an obvious unsafe condition is created that would potentially cause injury to persons or undue harm to properties, the Contractor shall take whatever measures are warranted to prevent such injury or harm. Immediately notify the Engineer and regulatory authorities. Do not resume operations until conditions are corrected, damage repaired and approval has been received from the appropriate authorities and the Owner’s Representative.

H. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or affect access to their property. Copies of the permission documents shall be
submitted to the Engineer.

I. Provide hoses and water connections. Spray water on demolition debris to minimize dust.

J. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition which existed prior to start of work.

K. All hazardous waste removal shall be performed by a hazardous waste contractor qualified and duly licensed by the local AHJ to remove, transport, and dispose of each type of hazardous substance.

3.9 Demolition

A. Demolish structures to be removed and disposed of completely and remove from site, or remove intact, in accordance with the approved permits, procedures and operational sequence.

3.10 Filling Voids

A. Completely fill all voids including, but not limited to: excavation areas, and voids resulting from demolition or removal of structures with suitable material

B. Areas to be filled shall be free of standing water, frost, frozen, and unsuitable material prior to fill placement.

C. Place and compact fill materials in conformance with all applicable requirements of the Contract Documents.

D. Grade surface of filled areas to match adjacent grades and slope to provide surface drainage.

3.11 Job Conditions

A. Condition of Structures: The Owner assumes no responsibility for actual conditions of items or structures to be demolished. Conditions existing at the time of commencement of the contract will be maintained by the Owner insofar as is practical. However, variations within the structure may occur by the Owner’s removal and salvage operations prior to start of selective demolition work.

B. Damages: The Contractor shall promptly repair all damage caused to adjacent facilities and equipment by clearing and demolition work at no additional cost to the Owner.

C. Traffic: The Contractor shall conduct clearing and demolition operations in a manner to ensure minimum interference with roads, streets, walks, parking lots and other adjacent occupied or used facilities.

D. Utility Services: The Contractor shall maintain and protect existing services.

3.12 Disposal of Demolished Materials

A. The Contractor shall propose for the Engineer’s approval, an off-site, legal, disposal location for material generated during clearing and demolition operations.

B. All material generated during clearing and demolition operations shall be disposed of at the approved disposal location.
C. Stripped topsoil shall be stockpiled on site for potential reuse. No burning of any material will be allowed.

D. The use of explosives will not be permitted without specific authorization in writing by the Owner.

E. Underground boring is not permitted on the property without specific authorization in writing by the Owner.
SECTION 31 25 00
EROSION AND SEDIMENT CONTROLS

PART 1- GENERAL

1.1 DESCRIPTION

A. This Item specifies requirements for temporary and permanent erosion and sedimentation control provisions as they relate to the construction proposed under this contract.

B. The work includes:
   i. Providing and maintaining all temporary erosion and sedimentation control measures shown on the Drawings and required by the Engineer during the life of the Contract to control soil erosion and water pollution.
   
   ii. The installation and maintenance of additional silt fence, berms, ditches, sedimentation basins, construction exits, fiber mats, catch basin filters, straw, netting, gravel, trenches, mulches, grasses, slope drains, and other approved erosion control devices or methods needed to protect any areas on or off site
   
   iii. Dust suppression.

C. When the use of siltation fence is ordered, the Contractor shall furnish and place siltation fence as a temporary erosion and pollution control device at locations shown on the plans or ordered by the Engineer.

D. When seeding is ordered, the Contractor shall sow seed of the type ordered on the areas as directed by the Engineer.

1.2 Definition and Coordination of Erosion and Sedimentation Control Provisions

A. Permanent erosion and sedimentation control measures are defined as those elements that are to be incorporated into the final project product, including but not necessarily limited to such items as: finish paving and landscape, sedimentation control structures (catch basins, etc.), swales and ditches, berms, and other such items.

B. Temporary erosion and sedimentation control measures are defined as those elements that are required by permit approvals and necessary to be installed by the Contractor to meet federal, state and local regulations for the construction program, including, but not necessarily limited to, such items as: silt fences, tree protection fence, turbidity curtains, berms, portable sedimentation basins, straw bales, straw wattles, erosion control blanket, check dams, and other such items, all of which shall be removed by the Contractor after installation of permanent erosion and sedimentation control measures, stabilization of the site, and prior to final completion of the project.
C. The temporary control provisions shall be coordinated with the permanent erosion and sedimentation control features to the extent practical to ensure economical, effective, and continuous erosion and sedimentation controls throughout the construction and post-construction periods.

1.3 Laws and Regulations

A. Compliance with the latest NYS Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity.

B. Compliance with the Municipal Separate Stormwater Sewer System (MS4)-Approved Stormwater Pollution Prevention Plan (SWPPP).

1.4 Sediment Control Guidelines

A. Erosion and Sediment controls for this project have been designed in accordance with and shall be maintained in accordance with the latest New York State Standards and Specifications for Erosion and Sediment Control (Blue Book).

1.5 Prior to Construction

A. Prior to the start of the construction, the Contractor shall submit to the Engineer the following:

   i. Schedules for the construction of temporary and permanent erosion and sediment control work, clearing and grubbing, grading, structures at watercourses, and construction.

   ii. Methods for the construction of temporary and permanent erosion and sediment control work, clearing and grubbing, grading, structures at watercourses, and construction.

   iii. No work shall be started until control schedules and methods of operations have been submitted to the Engineer.

1.6 Review and/or Inspection of Erosion and Sedimentation Control Measures

A. All construction under this project shall be subject to review and/or inspection by the appropriate local, State and Federal agencies responsible for ensuring the adequacy of erosion Design Criteria.

B. The Contractor shall conduct all construction in a manner and sequence that causes the least practical disturbance of the physical environment.

C. The Contractor shall stabilize disturbed earth surfaces in the shortest practical time and employ any and all such temporary erosion control devices as may be necessary until such time as adequate soil stabilization has been achieved or permanent erosion control devices are operational.

D. The erosion control devices specified herein and indicated on the Drawings represent the minimum required Work for erosion control. The Contractor shall add to these minimum devices any and all measures to effectively prevent migration of sediment from the work area at no additional cost to the Owner.

1.7 Construction Operations

A. When in the opinion of the Engineer it becomes necessary, the Engineer will inform the Contractor
of construction procedures and operations that jeopardize erosion and sedimentation control provisions. If these construction procedures and operations are not corrected promptly, the Owner may suspend the performance of any or all construction until corrections have been made, and such suspension shall not be the basis of any claim by the Contractor for additional compensation from the Owner nor for an extension of time to complete the Work.

1.8 Submittals

A. The Contractor shall submit product data sheets for the following products:
    
    i. Seed Mix for clean stockpiles;
    
    ii. Straw Wattles/Bales
    
    iii. Matting for Erosion Control
    
    iv. Turbidity Curtain

PART 2- PRODUCTS

2.1 Materials

A. Temporary erosion control seed.

    i. Seed shall be annual or perennial ryegrass and shall be free from primary noxious weed seeds and rough or woody materials.

B. Silt Fence.

    i. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to 2 1/2-foot wide, continuous length support netting, and stapled to pre-weathered oak posts installed as shown on the drawings. The oak posts shall be 2-inches by 2-inches by 36 inches and shall be tapered. The support netting shall be a woven industrial strength polypropylene geotextile in accordance with Geotextiles - Item 31 05 19.

C. Erosion Control Matting for Sloped Areas

    i. Matting for erosion control shall be provided on all slopes as indicated on contract plans and shall consist of undyed and unbleached smolder resistant jute yarn woven into a uniform, open, plain weave mesh. Jute matting shall be furnished in rolled strips and shall conform to the following specs.

        1. Erosion Control Mat - shall be Green “Geocoir 700” as manufactured by Belton Industries (800-42-8753) or approved equal.

        2. Width: 48 inches, plus or minus one inch.

        3. 78 warp ends per width of cloth.

        4. 41 weft ends per yard.

        5. Weight: To average between 1.25 lbs. and 1.80 lbs. per linear yard.
6. Tolerance: plus or minus 5%
   
   ii. Stakes for pegging erosion control matting shall be sound hardwood approximately 1 inch by 3 inches. Stakes shall be free from insects and fungi and capable of remaining intact in the ground for at least two years.

D. Turbidity Curtain
   
   i. Turbidity curtains shall be in accordance with the detail shown on the Drawings.

PART 3- EXECUTION

3.1 General Erosion Control Requirements

   A. Prior to commencement of the work, the Contractor shall meet with the Engineer to develop a mutual understanding relative to compliance with the provisions of this Item and administration of the erosion and sediment control program.

   B. The Contractor shall construct all permanent erosion and sedimentation control features at the earliest practical time as outlined in the accepted schedule. Temporary erosion and sedimentation control measures shall be used to correct conditions that develop during construction which were unforeseen, but are needed prior to installation of permanent erosion and sedimentation control features, or that are needed temporarily to control erosion or sedimentation which develops during construction operations.

   C. The Engineer/Owner has the authority to control the surface area of each material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary erosion control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, storm drainage systems or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting properties and roads.

   D. Where erosion is likely to be a problem, clearing and grubbing operations shall be scheduled and performed so that grading operations and permanent erosion and sedimentation control features can follow immediately thereafter, if conditions permit; otherwise, temporary erosion and sedimentation control measures will be required between successive construction stages.

   E. The Contractor shall operate all equipment and perform all construction operations so as to minimize pollution. The Contractor shall cease any operations that will increase pollution during rainstorms.

   F. The Contractor shall place additional erosion and sedimentation controls as required by laws and regulations.

   G. The Contractor shall use erosion controls to contain discharge from pumping operations during dewatering operations to prevent silt from entering the storm drains or receiving watercourse.

   H. Contractor shall be responsible for controlling erosion within the project area and retaining sediment on-site away from sensitive environmental resources. Any fines, construction delays, remedial actions, or incarceration resulting from the Contractor’s failure to comply with these provisions shall be the responsibility of the Contractor and not the Owner. The Contractor shall remove the erosion control installations upon completion of the Work or if ordered by the Engineer.
I. Failure by the Contractor to control erosion, pollution, and siltation shall be cause for the Owner to employ outside assistance to provide the necessary corrective measures. The cost of such assistance, including engineering costs, will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress payments.

J. The Contractor shall remove and properly dispose of sediment from control facilities as required by the Engineer. The Contractor shall modify and improve erosion and sedimentation control facilities and replace deteriorated straw bales and other devices as required by the Engineer.

K. Prior to removal of all siltation fencing and/or sediment control devices, the Contractor shall remove and dispose of all retained silt or other materials at no additional cost to the Owner.

L. Minimum temporary and permanent erosion and sedimentation control measures are shown on the Drawings. The Contractor shall strictly adhere to the minimum provisions shown. Additionally, temporary measures shall be selected and constructed by the Contractor in consultation with the Engineer to accommodate changing field conditions that develop during construction.

M. In disturbed areas where construction has permanently or temporarily ceased, the area must be stabilized within 14 days. If earth-disturbing activities will resume within 14 days, temporary stabilization is not required.

N. All disturbed areas shall be re-vegetated by loaming and seeding unless otherwise noted on the approved plan.

O. Slopes with exposed soils shall be stabilized by mulching, seeding or otherwise protected as the work progresses to comply with the intent of this specification. All damaged slopes shall be repaired as soon as possible. The Engineer will limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes to prevent pollution.

P. The Contractor shall at all times have on hand the necessary materials and equipment to provide for early slope stabilization and corrective measures to damaged slopes.

3.2 Diverting Surface Water

A. The Contractor shall build, maintain and operate all cofferdams, channels, flumes, sumps, and other temporary diversion and protection works needed to divert surface water through or around the construction site and away from the construction work while construction is in progress.

B. Storm runoff from disturbed areas must discharge into a sediment trap prior to discharge into the receiving watercourse.

3.3 Temporary Erosion Control Mats

A. Erosion control mats shall be installed in accordance with the manufacturer’s recommendations.

B. Areas to receive mats shall be smooth graded and compacted. Remove all rocks, dirt clods, vegetation, and other obstructions that may cause damage to the mats.

C. Unroll mats parallel to the direction of water flow and lay flat against the ground. Overlap roll ends a minimum of 1 foot with upslope mat on the top to prevent uplift of mat end by water flow. Overlay adjacent edges of mat by six (6) inches. Extend mat a minimum of 2 feet above the crest of steep
slopes and anchor by excavating a 6 inch deep trench, and secure end of mat in trench using staples or pins furnished by manufacturer of mat. After securing mat end in place, backfill and compact trench.

3.4 Silt Fence

A. Silt fence shall be installed at locations as shown on the Drawings.

B. Silt fence posts shall be spaced eight (8) feet center-to-center or closer. They shall extend at least one (1) foot into the ground. They shall extend at least two (2) feet above ground. Supporting posts shall be spaced 4 feet on center, and driven at least 1 foot into the ground. Posts shall be 1-1/2 inch square or heavier wood posts or standard steel posts.

C. Fabric shall be anchored in a 12-inch deep trench dug on the upslope side of the posts. The trench shall be at least 4 inches wide. The fabric shall be laid in the trench, backfilled, and compacted.

D. Fabric rolls shall be spliced at posts. The fabric shall be overlapped 6 inches, folded over, and then securely fastened to posts by nailing or stapling.

E. Silt fences shall be inspected immediately after each storm event and at least daily during prolonged rainfall.

3.5 Construction Entrance

A. The Contractor shall excavate the area of the entrance to a minimum of 3 inches and clear existing vegetation, roots, and other objectionable material.

B. Filter fabric shall then be placed the full widths and length of the entrance followed by stone to the specified dimensions.

C. The Contractor shall maintain the entrance in a condition which will prevent the tracking or flow of dirt or mud onto public right of ways.

3.6 Seed for Erosion Control

A. The Contractor shall sow annual or perennial ryegrass at the rate of approximately 5 lb. per 1,000 sq. ft., on the pure live seed basis.

3.7 Maintenance of Erosion and Sedimentation Control Measures

A. The Contractor shall check the condition of erosion and sedimentation control devices daily and maintain them in good operating condition.

B. The Contractor shall inspect the condition of diversion dikes and ditches, filter berms, interceptor dikes, sediment basins, and other erosion and sedimentation control devices after each rainstorm and during major storm events. Repairs shall be made as necessary.

C. Temporary soil erosion and sedimentation control devices shall be removed and adjacent areas outside the limits of grading restored upon completion of the work or when required by the Engineer.
3.8 Removal and Cleanup

A. All temporary erosion control facilities and accumulated sediments shall be removed in a neat and workmanlike manner when all disturbed areas have been satisfactorily stabilized as determined by the Engineer.

B. Sediments and other earth materials resulting from the installation/operation of the soil erosion and sediment control structures shall not leave the project site unless so directed by the Engineer but shall be consolidated below the proposed cover soil layer as practicable. Management of sediment shall be performed by the Contractor at no additional expense to the Owner. The Contractor shall perform all sediment management activities in close coordination with the Engineer.

The Contractor shall remove or level and grade to the extent required by the plans and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the completed work.
ITEM 31 32 39 BIOENGINEERING PRACTICES
FOR SHORELINE STABILIZATION

PART 1 – GENERAL

1.1 SUMMARY

A. The scope of work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing and planning of Banker Willow Bunches as shown on the plans, or as specified in locations as shown on the plans and/or as directed by the Engineer. The Contractor shall furnish all labor and equipment necessary to install plantings. The work to be completed under this item shall include plants and plantings, mulching and fertilizer, and two (2) years of care from the time of contract substantial completion.

This guide specification covers bioengineering practices as related to shorelines using natural vegetation by itself or in conjunction with organic erosion control matting. The use of the term bioengineering refers to soil bioengineering in this specification. Soil bioengineering is a method of stabilizing soils using living and dead plant material and biodegradable manufactured products. This specification does not include the use of geosynthetic materials, metal, or requirements for traditional stone or rock hardened structures for bank protection.

1.2 Related Documents and References

A. Drawings and general provisions of the contract including general and supplementary conditions and Division I specifications apply to the work under this item.

B. Related Specification Items

i. Item 01 70 00 – Execution and Closeout Requirements (as applicable)

ii. Item 31 00 00 – Earthwork

iii. Item 31 25 00 – Erosion and Sedimentation Controls

iv. Item 32 90 00 – Shoreline Planting

v. Item 32 92 19 – Seeding

C. References


ii. TR-EL-97-8 (1997) Bioengineering for Streambank Erosion Control; Report 1 Guidelines
1.3 Submittals

Submit the following in accordance with Item 01 33 00 submittal procedures.

A. The Contractor shall provide the Engineer with a certificate stating the name of the manufacturer, product name, style number, chemical composition of the fiber, netting and all other pertinent information to fully describe the Wattle composition. The Certification shall be attested to by a person having legal authority to bind the Manufacturer.

1.4 Quality Assurance

A. Ensure all Contractor and subcontractor personnel are fully qualified to perform the specified work and provide the Owner/Owner’s Representative with such documentation no less than 30 days before the notice to proceed. Do not start work until the Owner/Owner’s Representative is satisfied that the Contractor meets or exceeds all required qualifications. All Contractor records, documents, and work may be inspected by the Owner/Owner’s Representative at any time. Replace or repair immediately items not meeting quality requirements at no additional cost to the owner.

1.5 Regulatory Compliance

A. Perform the specified work in accordance with all applicable Federal, State, and Local regulations.

1.6 Delivery, Storage, and Handling

A. Vegetation

i. Inspect vegetation cuttings, herbaceous plants, and clump plantings for species, size, health, and preparation. Reject diseased, improperly sized, and incorrect species. Specific requirements for storage and handling are provided below.

ii. Wattle labeling, shipment, and storage shall follow the manufacturers written storage and handling procedures. Product labels shall clearly show the manufacturer or supplier name, wattle diameter and length.

iii. All woody plant cuttings collected more than 12 hr prior to installation, must be carefully bound, secured, and stored submerged in clean fresh water for a period of up to two weeks. Outdoor temperatures must be less than 50 degrees F and temperature indoors and in storage containers must be between 34 and 50 degrees F. If the willow stakes cannot be installed during the dormant season, cut during the dormant season and hold in cold storage at temperatures between 33 and 39 degrees F for up to 2 months.
1.7 Sequencing and Scheduling

A. Conduct all work during the period of plant dormancy as stated below and in accordance with all Federal, State, and local requirements for in-stream or near stream construction. The construction sequence must result in successful completion of the structure. Submit a construction work sequence schedule, detailing the work tasks and order of completion, to the Owner/Owner’s Representative for approval a minimum of 90 days prior to the start of construction. Do not commence work without the approval of the schedule and construction sequence by the Owner/Owner’s Representative. Construction must not occur if climatic conditions threaten the survivability of plants or worker safety.

1.8 Warranty

A. The structure and all manufactured materials will be under Contractor warranty for a period of 2 years including vegetation and earthworks.

PART 2- PRODUCTS

2.1 MATERIALS

A. Submit classification, botanical name, common name, harvest location, plant heath, and date tested, live or dead cuttings, nursery stock, plants. Provide permanent vegetation type and planting plan, species and mixtures for live and dead cuttings and nursery stock and herbaceous plants as follows:

B. Provide weed seed or noxious plants that are a maximum of 1 percent by weight of the total seed mixture. Undesired, non-native and or invasive vegetation species will not be allowed. Ensure all live cuttings and containerized plantings are capable of growth and rooting and free of disease or defects at the time of installation.

<table>
<thead>
<tr>
<th>Mixture Percent by Volume</th>
<th>Percent Live and Dead</th>
<th>Botanical Name</th>
<th>Common Name</th>
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</table>

C. The minimum acceptable sizes of all nursery stock, with branches in normal position, shall conform to the measurements specified in the Landscape/Mitigation Plans.

D. Plants. Quality and size of plants including root spread and ball size shall be in accordance with the following standards, except as directed by the Engineer:


E. Plantings that shall be included, where specified in the plans:

i. Wattles: Bankers Dwarf Willow Bunches (Salix Cotteti)

F. Unrooted Cuttings.

i. Unless otherwise authorized, the Contractor shall notify the Engineer at least five working days in advance of the anticipated start of harvesting cuttings. All cuttings shall be harvested from approved parent material. Approval of parent material shall be in writing from the Engineer. This approval will include a detailed description of the approved locations. The Contractor shall select a site, and if outside of the construction boundary, provide written approval from the Owner, when applicable, for access and harvesting the required number of cuttings. The harvesting site shall be left clean and tidy, to the satisfaction of the Engineer and the Owner, when applicable. Unused material including trimmings shall be cut up to 2 feet in length and evenly distributed around the wetland mitigation site.

ii. Unrooted cuttings shall be harvested and planted in early spring (March 1st to April 15th) while the plants are still dormant. However, the Engineer may authorize an alternative harvesting and planting timeframe based on project timing. Immediately upon harvesting, all cuttings shall be placed in water so that the cut ends are covered in water, and the cuttings shall be stored in a cool location. Plants shall be completely submerged in containers with water if not planted within 24 hours of harvesting. The containers shall be continuously shaded and protected from the wind. Cuttings shall be protected from drying at all times.

iii. During transportation, the cuttings shall be kept completely submerged in containers with water in orderly fashion to prevent damage and to facilitate handling. Cuttings should be bundled using natural twine or flexible staking tape (and not with wire) in uniform groups of 25-100 to allow for easy tracking of quantities.

1. Live Brush Fascines

Live willow unrooted cuttings to be used in fascines as a bioengineering application. Unrooted cuttings diameter shall vary and shall be a minimum 3.5 feet long and between 1/2 and 2 inches in diameter. Up to 10 percent of the bundle may be plant material that does not root easily or dead plant material. The remaining 90 percent of the bundle shall consist of younger wood between 1 to 4 years old (at a minimum 10 willow cuttings per fascines). Fascines bundles may be stored submersed in water for no longer than two weeks, if necessary.

G. Waterfowl Deterrence Barrier

i. Steel “T” Posts. Posts with a minimum of five (5) feet in length and 1.25 lbs./ft. Steel posts shall be coated with green colored, rust resistant paint.

ii. Fencing. “SAF-T_SNO” 4-foot-wide High-Density Polyethylene, UV stabilized, Orange Safety/Snow Fence with tensile yield strength of over 200 lbs. per foot or approved equal.

iii. String line. 100% nylon seine twine or mason line, #18 or larger.
iv. Vinyl flagging shall be used to tie onto the string line as a visual warning signal. Any standard flagging meeting the following requirements shall be acceptable:

1. Width of 1½ inches to 2 inches
2. Solid red or orange in color
3. Resistant to cold cracking up to -10 Degrees Fahrenheit.

v. Nylon cable ties. High tensile strength, Vydyne or approved equivalent, UV and weather resistant nylon cable ties, meeting ASTM D4066 PA standard. Ties shall be a minimum of 14 inches in length.

PART 3- EXECUTION

3.1 Construction Details

A. Plant Material Preparation

i. Layout. Locations for wattles and outline of areas to be planted shall be marked out on the ground by the Contractor to the satisfaction of the Engineer before any plant pits or plant beds are dug.

1. The location of individual woody plants shall be staked, and planting beds outlined on the site in accordance with the planting plan before any planting pits are dug.
2. The Engineer and/or the Owner’s Representative reserves the right to adjust the plant or bed locations at no additional cost to the Owner if, in their opinion, these do not resemble the plant or bed locations as originally laid out and approved.

ii. Wattling Installation

1. All willow stakes are to be dormant but live, between October 1 and February 28.
2. Cut ½-2-inch or less diameter stems into a minimum of 3.5 foot lengths and remove all lateral branches.
3. Bundle stems in groups of 10 to 20 with ends alternated. The bundle should be 1 to 2 feet longer than the longest stem cut.
4. Tightly compress bundle and tie with two wraps of twine every 10-15 inches.
5. Beginning at the toe, dig horizontal trench 8 to 10 inches wide by 5 inches deep. Do not dig trench more than one hour prior to planting the wattle to minimize soil drying.
6. Drive a vertical stake(2-3 ft long) on down-hill side of trench every 2 feet,
7. Place wattles in trench and drive 2-3 foot long stakes through the bindle every 3 feet.
8. Cover with soil and tamp wattle so that no more than 20 percent of the wattle is exposed.
iii. Season:

1. The seasons for installation shall be planted no later than May 31st unless otherwise approved.

2. The Contractor shall notify the Engineer at least 48 hours in advance of the time he intends to begin sowing seed and shall not proceed with such work until permission to do so has been obtained. When delays in operations carry the work beyond the dates which are specified, or when conditions of high winds, excessive moisture or ice are such that satisfactory results are not likely to be obtained for any stage of the work, the Engineer will stop the work.

3. The work shall be resumed with the Engineer’s approval when the desired results are likely to be obtained or when approved corrective measures and procedures are adopted.

4. Care During Construction: Maintenance of landscaping shall start immediately upon placement of first permanent landscaping and continue until the Notice of Substantial Landscape Completion has been received. The Contractor shall maintain the unrooted cuttings in a healthy and vigorous growing condition to ensure successful establishment. The Contractor will maintain and monitor the project site for a period of two growing seasons.

B. Waterfowl Deterrence Barrier Installation

i. The Contractor shall fully enclose all newly planted, emergent wetland areas inside the Waterfowl Deterrence Barrier consisting of posts, string line, perimeter fence, and vinyl flagging by the end of each workday.

ii. The Contractor shall identify the area to be planted at the start of each workday and install steel “T” posts at all corners of that area to be protected. Posts shall be driven plumb into the ground using a T-post driver or approved equivalent method. Posts shall extend a minimum of 1-1/2 feet below grade. Posts shall be installed along the toe and perimeter of the wetland benches prior to planting. Posts shall be installed a minimum of 1-1/2 feet beyond the edge of the planting area to allow room to walk for planting, future maintenance, and monitoring.

iii. String line shall be tied to the top of each post and strung across the top of the planted areas to posts on the opposite side. The string lines shall be connected both perpendicular and parallel to the orientation of the shoreline, as well as diagonally across the top of each planted item in order to create a crisscrossed pattern of string line. Openings shall be no larger than 24 inches wide to prevent waterfowl from flying into the area.

iv. The ends shall be tied securely in a multiple knotted fashion to a post. To ensure fastness, all knots shall be checked by pulling firmly on the string line. Any knots that unravel shall be re-tied until secured.

v. Pieces of vinyl flagging approximately 1-foot in length shall be tied near the middle of an opening on every stretch of monofilament line that crosses that planting area. Spacing between the vinyl flags shall be random and staggered in such a way that, when viewed from above, the entire area appears equally treated.
vi. The polyethylene fencing shall be installed around the outer perimeter of each treated area in order to complete the enclosure. Three nylon cable ties shall be used to attach the fencing to each post. One tie shall be placed near the top of the fence, one near the base and one in the middle.

vii. Upon completion of each wetland planting bed, the planted area shall be completely enclosed by the perimeter fencing and string line. If during construction the Contractor only partially completes a wetland planting area, the entire area shall be enclosed with both the required string line and perimeter fencing at the end of each workday. Subsequently, the Contractor may temporarily open a portion of the polyethylene fencing to complete the required plantings.

C. Cleaning, Maintenance, and Replacement of Fencing Materials

i. At the completion of all work, the surfaces of the finished work and adjoining area surfaces shall be cleaned of all foreign material and left in a neat, satisfactory condition acceptable to the Engineer.

ii. Maintenance shall be provided as needed by the Contractor at no additional cost to the Owner. Maintenance shall include replacement of damaged perimeter fencing and overhead string lines until the period of plant establishment or completion of the project as determined by the Engineer.

iii. The Contractor shall be required to conduct routine maintenance as directed by the Engineer during the construction period for apparent tears or oversized gaps in the wire fence.
PART 1- GENERAL

1.1 Description

Item includes all labor, equipment, materials and safety gear required to furnish and install round (treated timber piling wall at the locations indicated on the drawings and specified herein.

1.2 References

Publications below for a part of this specification to the extent referenced, The publications are referred to within the text by the basic designation only.

A. AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)


ii. AWPA M2 (2019) Standard for the Inspection of Preservative Treated Wood Products for Industrial Use

iii. AWPA M4 (2023) Standard for the Care of Preservative-Treated Wood Products

iv. AWPA M6 (2013) Brands Used on Preservative Treated Materials

v. AWPA P1/P13 (2019) Standard for Creosote Preservative


ix. AWPA T1 (2023) Use Category System: Processing and Treatment Standard

x. AWPA U1 (2023) Use Category System: User

B. ASTM INTERNATIONAL (ASTM)


iii. ASTM A307 (2021) Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

iv. ASTM 1011/A1011M (2023) Standard Specification for Steel Sheet and Strip, Hot-
Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength


C. U.S. GENERAL SERVICES ADMINISTRATION (GSA)

i. FS RR-W-410 (2022; Rev J) Wire Rope and Strand

D. WESTERN WOOD PRESERVATIVES INSTITUTE (WWPI)

i. WWPA MGT PRACTICES (1996; R 2011) Best Management Practices for the Use of Treated Wood in Aquatic and Wetland Environments

1.3 Delivery, Storage, and Handling

A. Handle and store piles in accordance with AWPA M4. Follow precautions identified in SDS or CIS provided by the supplier of treated wood products. Special care must be taken in supporting piles to prevent the induction of excessive bending stresses in the piles. Piles must be carefully handled without dropping, breaking outer fibers, and penetrating the surface with tools. Peaveys, hooks, pikes, and other pointed tools must not be used in handling treated piles.

1.4 Quality Assurance

A. Preservative Treatment- Timber Marine Piles

i. The Contractor is responsible for the quality of treated wood products. The Contractor must provide the Owner/Owner’s Representative with the inspection report of an independent inspection agency, approved by the Owner/Owner’s Representative, certifying that the offered products comply with applicable AWPA standards. Identify treatment on each piece by the quality mark of an agency accredited by the Board of Review of the American Lumber Standard Committee. Inspect all preservative-treated wood visually to ensure there are no excessive residual materials or preservative deposits. Material must be clean and dry, or it will be rejected due to environmental concerns.

B. SDS and CIS

i. Provide Safety Data Sheets (SDS) and Consumer Information Sheets (CIS) associated with timber pile preservative treatment. Contractor must comply with all safety precautions indicated on the SDS and CIS.
C. Delivery Inspection List

   i. Field inspect and submit a verification list of each treated timber pile indicating the wording and lettering of the quality control markings, the species and the condition of the wood. Do not incorporate piles damaged in transport from plant to site. Inspect all preservative-treated piles, visually to ensure there are no excessive residual materials or preservative deposits. Material must be clean and dry or it will be rejected due to environmental concerns.

D. Best Management Practices (BMPs)

   i. The producer of the treated wood products must provide certification that WWPI Mgt Practices for the use of Treated Wood in Aquatic and Wetland Environments were utilized including a written description and appropriate documentation of the BMPs utilized.

   ii. As part of the BMPs for CCA treated pier timberwork, certification must be provided that documents that the Chromotropic Acid Test (AWPA A3- Methods for Determination of the Presence of Hexavalent Chromium in Treated Wood) was performed on the timber and adequate fixation of the CCA treatment has been achieved prior to installation.

PART 2- PRODUCTS

2.1 Materials

   A. Piles

   i. Provide Southern pine, clean-peeled, treated piles in accordance with AWPA U1 Commodity Specification G and conforming to ASTM D25 and other requirements as specified below. Piles must be in one piece for the lengths shown on the contract drawings and as determined from pile load tests. Splices will not be permitted. Each treated pile must be branded by the producer, in accordance with AWPA M6. Pile circumferences must be as follows:

      1. Bearing Piles: 20 feet long one piece, unused. Minimum butt diameter must be 12 inches; measured at 3 feet from the butt end. Tip diameter must be 10 inches as indicated.

      2. Wood Horizontal Cribbing Piles: Minimum butt diameter must be 10-12 inches measured at 3 feet from the butt end and 40 ft long.
Reference Design Values for Treated Round Timber Piles Graded Per ASTM D25

<table>
<thead>
<tr>
<th>Species</th>
<th>Axial Compression (Fc) psi</th>
<th>Bending (Fb)(psi)</th>
<th>Shear Perpendicular to the Grain (Fv) (psi)</th>
<th>Compression Perpendicular to the Grain (Fc₁) (psi)</th>
<th>Modulus of Elasticity (E) (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Pine₁</td>
<td>1250</td>
<td>1950</td>
<td>160</td>
<td>440</td>
<td>1,500,000</td>
</tr>
</tbody>
</table>

Southern Pine design values apply to Loblolly, Longleaf, Shortleaf, and Slash Pines.

B. Preservative Treatment

i. Treat piles based on Use Category and species in accordance with AWPA U1 and AWPA T1 to the retention and penetration for marine piling and produce in accordance with WWPI Mgt Practices. Piles preservative treatment must be Creosote or creosote solution for marine piles in accordance with AWPA P1/P13 or AWPA P2, respectively. Waterborne preservative for marine piles in accordance with AWPA P5 (ACZA - Ammoniacal Copper Zinc Arsenate, CCA - Chromated Copper Arsenate). Dual treatment of creosote or creosote solution plus waterborne preservative for marine piles in accordance with AWPA P1/P13 or AWPA P2, and AWPA P5.

C. Field Treatment

i. Piles must be field treated in accordance with AWPA M4. All cuts, holes and injuries such as holes from removal of spikes or nails which may penetrate the treated zone must be field treated with copper naphthenate conforming to AWPA P34 and coal-tar roofing cement conforming to ASTM D5643/D5643M.

D. Pile Shoes

i. Pile Shoes must be with arrow pointing of hot carbon steel boot or welded-plate point shoe especially fabricated for pile driving and in accordance with ASTM A1011/A1011M. The product must be fabricated by a manufacturer regularly engaged in the manufacture of pile fittings. Welding procedures must be in accordance with a nationally recognized welding code. Provide size to fit pile tip. Fabricate boot type of 5 mm 3/16 inch carbon steel fully welded, with at least three straps, each with three 5 mm 3/16 inch nail holes. Fabricate welded-plate point type of four 5 mm 3/16 inch or 6 mm 1/4 inch steel plates, fully welded and sized to adequately cover full pointed area of pile; provide each plate with one 5 mm 3/16 inch or one 6 mm 1/4 inch nail hole. The length of the joints formed by the interitem of the sides must not be less than one half of the height of the shoe. Shoes must be cleaned and painted with at least one coat of paint. The color and paint must be the manufacturer's standard.

E. Hardware

i. Pile hardware must consisting of galvanized bolts with necessary nuts and washers, timber connectors, drift pins, dowels, nails, screws, spikes, and other fastenings. Provide bolts with washers under nut and head. Bolts and nuts must conform to ASTM A307. Provide cast-iron ogee, malleable iron washers, or plate or cut washers where indicated. Provide bolts with washers under nut and head. Provide timber connectors and other metal fastenings of type and size indicated. Hot-dip galvanize
all hardware in accordance with ASTM A123/A123M or ASTM A153/A153M, as applicable.

2.2 Tests, Inspections, and Verifications

A. Inspection of Piles
   i. The Contractor must provide the necessary facilities for the proper inspection of each pile. Piles to be preservative treated will be inspected prior to treatment. Piles will be inspected at the shipping point or at the work site if so decided. Pile inspection at the shipping point will not be performed for less than 50 piles in one locality. Piles with specified variations in characteristics must be placed in separate lots for inspection. Piles must be so marked or segregated into marked lots that there will be no possibility of error in assignment after they have been inspected. Piles damaged after inspection may be subsequently rejected if damage is deemed sufficient for rejection. All rejected piles must be removed as directed.

B. Inspection of the Preservative Treatment Process
   i. Inspection of the preservative treatment process will be in accordance with AWPA M2. The Contractor must notify the Owner/Owner’s Representative where preservative treatment will be done not less than 15 days prior to the start of the treatment and must provide the necessary facilities for the proper inspection of the treatment process. Allow the Owner/Owner’s Representative unlimited access to the plant and inspection privileges for each facet of the treating process.

PART 3- EXECUTION

3.1 INSTALLATION

Pile driving equipment must meet the following requirements.

A. Pile Driving Hammers
   i. Pile driving hammers must be the vibratory type. The use of vibratory hammers is dependent upon satisfactory driving and load testing of piles. The size or capacity of hammers must be as recommended by the manufacturer for the pile weights and solid formation to be penetrated. The pile hammer must be of sufficient weight and energy to install the specified pile without damage into the soils expected to be encountered. The maximum driving energy of hammers must be [16,270] [20,330] joules [12,000] [15,000] foot-pounds for piles for any length. Test piles must be driven with the same size and type hammer, operating with the same effective energy and efficiency as that to be used in driving job piles. Diesel-powered hammers must be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure must be maintained at the hammer so that:

   1. For double-acting hammers, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that which the hammer is rated;

   2. For single-acting hammers, there is a full upward stroke of the ram; and,

   3. For differential-type hammers, there is a slight rise of the hammer base during each upward stroke.

B. Leads
i. Leads are required and must be fixed at the top and adjustable at the bottom. Swinging leads will not be permitted.

C. Driving Cap or Helmet and Cushion Block

i. Driving cap or helmet must be an approved design and must be capable of protecting pile heads, minimizing energy absorption, and transmitting hammer energy uniformly and consistently to piles. Place driving helmet or cap and cushion block combination between top of pile and the ram. Driving cap must fit snugly on the top of piles and must employ a cushion block to prevent impact damage to piles. The cushion block may be a solid or laminated softwood block with the grain parallel to the pile axis and enclosed in a close-fitting steel housing. The thickness of the block must be suitable for the length of pile to be driven and the character of subsurface material to be encountered. Generally, thicker blocks are required for longer piles and softer subsurface material. If the block is damaged, split, highly compressed, charred or burned, or has become spongy or deteriorated, replace with a new block. Under no circumstances will the use of small wood blocks, wood chips, rope, or other material permitting excessive loss of hammer energy be permitted.

D. Pile Collars

i. Collars or bands for protecting pile butts against splitting, brooming, and other damage while being driven must be of an approved design.

E. Pile Installation

i. Inspect piles when delivered and when in the leads immediately before driving. Cut piles at cutoff grade with pneumatic tools by sawing or other approved method. Where cutoff is below existing mudline elevation, complete excavation, sheeting and dewatering before pile is driven to cutoff elevation.

F. Driving Piles

i. Drive job piles with same hammer, cushion, or cap block, and using the same operating conditions as test piles. A complete and accurate record of the driving of piles must be compiled by the Contractor for submission to the Owner/Owner’s Representative. When driving long piles of high slenderness ratio, special precautions must be taken to ensure against over stressing and leading away from a plumb or true position. During driving, pile driving hammers must be operated at all times at the rate and conditions recommended by the hammer manufacturer. Each pile must be driven continuously and without interruption to the indicated elevation until the required depth of penetration and penetration rate per blow have been attained in accordance with the schedule that the Owner/Owner’s Representative will prepare from the test pile driving and test data. Deviation from this procedure will be permitted only in case the driving is stopped by causes which reasonably could not have been anticipated. The controlling penetration per blow will be determined by the Owner/Owner’s Representative. Piles must be driven to the full penetration required where practicable to do so without damage to the piles. If found impracticable to drive any pile to the depth required, such pile must be cut off and abandoned or pulled as directed. Driven piles which have a penetration of less than indicated in plans and have not been driven to the established maximum penetration per blow are not satisfactory. Driving of piles beyond the point of refusal, as indicated by excessive bonding of the hammer or kicking of the pile, or a blow count of greater than twice the blow count required to produce the safe bearing capacity must not be attempted. Piles which have uplifted after driving must be redriven to grade after conclusion of driving in that general area. The
maximum permissible penetration per blow for the last 20 blows will be established by the Owner/Owner’s Representative. When the penetration per blow of any pile during the final blows exceeds that permitted or it is found that a pile is not of sufficient length to give the capacity specified, and the pile has been driven to its full depth, the Contractor must pull the pile, furnish, and drive a longer pile or take other corrective measures as directed by the Owner/Owner’s Representative. The use of followers or splices must not be permitted. After driving is completed, all piles must be "headed" or cut off normal at the cutoff elevation. Pile heads at cutoff must be sound. Headed treated piles, must be treated with copper naphthenate per AWPA M4. Piles driven in locations where they are constantly subject to water spray must be given this treatment immediately after they are cut off and before the cutoff surface has been wetted. Cutoffs must become the property of the Contractor and must be removed at his expense.

G. Tolerances in Driving Piles

i. Piles must be accurately placed in the correct location and alignments both laterally and longitudinally and to the vertical or batter lines as shown. At cutoff elevation, butts must be within 2 inches laterally of the location indicated. Manipulation of piles is prohibited. Manipulation to move piles into position will be permitted only within the aforementioned tolerance to return the pile to the design location. However, piles must not be manipulated more than 1.5 percent of the exposed length above the mudline surface. Piles may be manipulated a maximum of 42 mm per m 0.50 inch per foot of pile length in a direction parallel to the pier face and 21 mm per m 0.25 inch per foot of pile length in a direction perpendicular to the pier face. A variation of not more than 21 mm per m 0.25 inch per foot of pile length from the vertical for plumb piles or more than 42 mm per m 0.50 inch per foot of pile length from the required angle for batter piles will be permitted. The correct relative position of group piles must be maintained by the use of templates or by other approved means. In addition to complying with the tolerances stated herein or otherwise specified, clear distance between heads of piles and edges of caps must be not less than 125 mm 5 inches. With prior approval of the Owner/Owner’s Representative, the Contractor may provide additional concrete and reinforcement to maintain the required minimum clear distance. Redesign of pile caps or additional work required due to improper location of piles will be the responsibility of the Contractor. Inspect piles for heave. Piles must be driven to the depths shown as directed. Redrive heaved piles to the required tip elevation. Remove and replace with new piles those damaged, misplaced, driven below the design cutoff, or driven out of alignment, or provide additional piles, driven as directed at no additional cost to the Owner.

H. Pile Driving Records

i. Keep a complete and accurate driving record of each pile driven. Indicate pile location, deviations from design location, diameter, original length, mudline elevation, tip elevation, cutoff elevation, penetration in blows per meter foot for entire length of penetration for test piles, penetration in blows per meter foot for the last 3 m 10 feet for job piles, hammer data including rate of operation, make, and size, and unusual pile behavior or circumstances experienced during driving such as redriving, heaving, weaving, obstructions, jetting, spudding, and unanticipated interruptions. Make pile driving records available to the Owner/Owner’s Representative at the job site, a minimum of 24 hours after each day of pile driving. Include in the construction records the wood species, preservative type, retention, and producer of installed treated timber.

I. Lengths of Job Piles

i. The estimated quantities of piles listed in the unit price schedule to be furnished by the Contractor
are given for bidding purposes only. The Owner/Owner’s Representative will determine the actual lengths of piles required to be driven below cutoff elevation for the various locations in the work and will furnish the Contractor a quantities list which indicates lengths and ITEM 3162 19.13 locations of all piles to be placed. This determination will be made from the results of the test pile driving and test loading. The lengths of piles must be as indicated. The Owner/Owner’s Representative will determine the number of overlength piles, if any, to be ordered to provide for variations in subsurface conditions. Where specified bearing capacities are attainable with piles of lesser length than those specified, shorter piles may be used subject to prior approval in writing. To provide for “heading” or cutting off normal after driving, piles must be furnished in lengths at least one foot greater than the lengths specified to be below the cutoff elevations.

J. 3.1.4 Fastening

i. Where bolts are used to fasten timber to timber, bolt members together when they are installed and retighten immediately prior to final acceptance of contract. Provide bolts having sufficient additional threading to provide at least 3/8 inch per foot thickness of timber for future retightening. Provide timber connectors of types indicated. Install split-ring and shear-plate connectors in pre-cut grooves of the dimensions as recommended by the manufacturer. Force toothed-ring and spike-grid connectors and clamping plates into the contact surfaces of timbers joined by means of proper pressure tools; at joints, embed connectors of these types simultaneously and uniformly.

3.2 PROTECTION

A. Protection of Piles

i. Square the heads and tips of piles to the driving axis. Laterally support piles during driving, but do not unduly restrain piles from rotation in the leads. Where pile orientation is essential, take precautionary measures to maintain the orientation during driving. Driven batter piles of sufficient unsupported lengths to cause a measurable deflection must have free ends secured until piles are fixed in the structure to prevent excessive bending stresses. Handle, protect, and field treat piles in accordance with AWPA M4.

B. Damaged Piles

i. Driving of piles must not subject them to damage. Piles which are damaged, split, broomed, or broken by reason of internal defects or by improper driving below cutoff elevation so as to impair them for the purpose intended must be removed and replaced; a second pile may be driven adjacent thereto at the Contractor's expense. Minor damaged areas of treated piles must be field treated in accordance with AWPA M4. The Owner/Owner’s Representative may require the Contractor to pull certain selected piles after driving for test and inspection to determine the conditions of the piles. Any pile so pulled and found to be damaged to such extent as to impair its usefulness in the completed structure must be removed from the work and the Contractor must furnish and drive a new pile to replace the damaged pile. Piles pulled and found to be sound and in a satisfactory condition by the Owner/Owner’s Representative must be re-driven.

C. On-Site Application of Wood Preservatives

i. All on-site application of wood preservatives must be performed by the person identified in accordance with PESTICIDE APPLICATOR COMPANY SELF-CERTIFICATION. Field application of wood preservatives must be made in accordance with the pesticide label. All cuts, holes and injuries such as holes from removal of spikes or nails which may penetrate the treated zone must
be field treated in accordance with AWPA M4.

3.3 FIELD QUALITY CONTROL

A. Inspections

When Owner/Owner’s Representative inspections result in product rejection, the Contractor must promptly segregate and remove rejected material from the premises. The Owner/Owner’s Representative may also charge the Contractor an additional cost of inspection or test when prior rejection makes reinspection or retest necessary.
SECTION 32 15 00

AGGREGATE SURFACING

PART 1- GENERAL

1.1 Summary

A. The scope of work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing and installing aggregate surfacing for parking areas as indicated on plans.

1.2 Related Documents and References

A. Drawings and general provisions of the contract including general and supplementary conditions and Division I specifications apply to the work under this item.

B. Related Specification Item

i. Item 01 50 00 – Temporary Facilities and Controls

ii. Item 01 70 00 – Execution and Closeout Requirements (as applicable)

iii. Item 31 00 00 – Earthwork

1.3 References

A. ASTM 01557- (2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³) (2700 kN-m/m³)

B. AASHTO T 224 (2010) Standard Method of Test for Correction for Coarse Particles in the Soil Compaction Test

1.4 Submittals

A. Submit the following in accordance with Item 01 33 00 submittal procedures.

B. The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, and chemical composition of the stone.

1.5 Equipment

A. All plant, equipment, and tools used in the performance of the work will be subject to approval by the Owner/Owner’s Representative before the work is started. Maintain all plant, equipment, and tools in satisfactory working condition at all times. Submit a list of proposed equipment, including descriptive data. Provide adequate equipment having the capability of minimizing segregation, producing the required compaction, meeting grade controls, thickness control, and smoothness requirements as set forth herein.
1.6 Quality Assurance

A. Sampling and testing are the responsibility of the Contractor. Test the materials to establish compliance with the specified requirements and perform testing at the specified frequency.

1.7 Testing


PART 2: PRODUCTS

2.1 MATERIALS

The base course blend shall consist of well graded crushed stone or New York state DOT approved recycled concrete aggregate (RCA). RCA shall not exceed more than 5% erroneous material such as brick, ceramics, metals, wood, gypsum, or other organic material. The base course blend shall have the following mechanical gradation:

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<tr>
<td>1&quot;</td>
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A. The material shall also achieve a maximum dry density of not less than 145 pounds per cubic foot at optimum moisture content when tested in accordance with ASTM designation 01557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort, Latest.
PART 3 - EXECUTION

3.1 Construction Details - Subbase Preparation

A. The stabilized soil base shall be smooth parallel to and at the required depth below the dense graded base surface. The soil base shall not be in a muddy or frozen condition. The dense graded base material shall be deposited on the stabilized base by means of a dump truck spreader tailgate or any other approved method of deposition.

B. Placing Material

   i. The spreading of the material shall be by means of approved self-propelled spreader equipment. No segregation of large or fine particles will be allowed, and the material as spread shall be well graded. After the base course has been laid loose, it shall be thoroughly rolled with an approved roller weighing not less than 10 ton static or 8 ton static plus 12 ton vibratory. Rolling must begin at the sides and continue toward the center and shall continue until there is no movement of the course ahead of the roller.

   ii. The base course shall be kept in a moist condition to allow compaction to maximum density. Six (6) percent moisture shall be a guideline for the optimum moisture content, unless specific moisture density report on the base course material reveals otherwise.

   iii. In lieu of the above method of finishing rolling, the Contractor may, at his option, use a vibratory method as follows: After the material is spread evenly, so that it will have the required thickness after compaction, the entire area shall be compacted by an approved vibratory compactor. Vibration shall continue until the material is keyed sufficiently to permit rolling with an approved roller without displacement of the material. For breakdown rolling, a pneumatic roller must be used.
SECTION 32 90 00

PLANTING

PART 1- GENERAL

1.1 DESCRIPTION

A. The work covered in this item will include furnishing all labor, plants, equipment and materials, and performing all operations required to complete the installation of the shoreline plantings, as agreed to by the Owner, and in strict accordance with this Performance Specification, and any and all subsequent addenda or additions thereto.

B. The Contractor will be responsible for replanting any areas which do not show the proper density of planted vegetation for a period of two (2) years from the date of acceptance of the finished project. The minimum acceptable density of surviving species of vegetation will be 85% for herbaceous vegetation for every 25 feet measured along the shoreline and 100% for woody materials. If the surviving species of planted herbaceous vegetation is less than 85% and 100% for woody materials then the Contractor shall replant one-time, lost species to obtain the original 100% plantings. Upon completion of the plantings to achieve 100%, the Contractor shall have completed the contractual requirements for plantings.

1.2 RELATED ITEMS

A. Other Specification ITEMS which directly relate to the work of this item include:

i. ITEM 32 92 19 Seeding

1.3 SUBMITTALS

A. Plants

i. Prior to installing plants at the project site, the Contractor will be required to show proof of a valid New York Nursery Inspection Certificate or Plant Dealers License (or comparable certification for out-of-state installers). All shipments of nursery stock into New York must be accompanied by a valid certificate of inspection issued at the state of origin, and acceptable to the New York Department of Agriculture Office of Plant Industries and Resource Conservation.

ii. Nursery supplier certification letter attesting to plant materials meeting the latest edition of ANSI Nursery Stock Standards, species' identity supplied are true to the genus species and cultivar specified on plans, and quantities supplied are consistent with the quantities on the plans.
PART 2- PRODUCTS

2.1 MATERIALS – 4” Caliper Trees

A. Species:
   i. Eastern Cottonwood (Populus Deltoides)
   ii. Silver Maple (Acer Saccharinum)

B. Fertilizer
   i. Each transplant site will be fertilized with one ounce of organic fertilizer (2-1-1 or 3-1-1) (50% slow release) or equivalent slow-release fertilizer placed in the planting hole at the time of planting.

C. Plant Stock
   i. Plant stock will be herbaceous plants listed on the plans grown in 2” minimum plugs. Plants will be three to six months old and approximately 12 inches high.
   ii. It will be the responsibility of the Contractor to maintain the vigor of the plants held at the site during site preparation work and construction. Plants held at the site will be watered by sprinkling with fresh water at least once a day.
   iii. Planting will be done with moist, but not saturated, root masses. Plants will not be removed from the peat pots.

D. Water
   i. Water used in the establishment of caring of plants and seed shall be free from any substance that is injurious to plant life.
   ii. Contractor is responsible for temporary irrigation of all plantings until final acceptance and into the plant warranty period until the plant establishment.

E. Soil Preparation and Planting
   i. Grass, weeds and debris will be cleaned from all areas to be planted, and the ground surface will be smoothed.
   ii. After grading, the planting zones will be marked on the ground, and plantings made in rows generally parallel to the shoreline, or according to elevations as specified by the Owner. Low and high marsh planting zone rows will be 12 inches apart, and plants will be 12 inches apart in the rows.
   iii. Plantings will be made by hand with dibble, spade or shovel by opening a hole at the planting site, placing the fertilizer and then the plant in the hole, closing the hole and firming the soil around the plant so that the surface soil is three to four inches above the top of the root mass.
F. Shoreline Planting Season

1. Planting will be accomplished between May 1 and September 1.

2.2 MATERIALS – SHRUB PLANTINGS

A. Species:

i. Arrowwood Viburnum (Viburrium Dentatum)

ii. Silky Dogwood (Cornus Amomium)

B. Plant Materials

i. Layout. Locations for plants and outlines of areas to be planted shall be marked out on the ground by the Contractor to the satisfaction of the Engineer before any plant pits or plant beds are dug.

1. The location of individual woody plants shall be staked, and planting beds outlined on the site in accordance with the planting plan before any planting pits are dug.

2. The Engineer and/or the Owner’s Representative reserves the right to adjust the plant or bed locations at no additional cost to the Owner if, in their opinion, these do not resemble the plant or bed locations as originally laid out and approved.

ii. Planting pits shall be round, with tapered sides and flat bottoms.

iii. Unless otherwise specified on the plans, the minimum diameter of plant pits shall bear the following relation to the spread of roots (or diameter of balls) of the plants to be planted in them: Pit diameter - twice the root spread for plants up to and including a two foot root spread; pit diameter equal to root spread plus two feet for root spreads of two to four feet; pit diameter one and one-half times the root spread for spread of roots over four feet. The depth of planting pits shall be at a minimum 6 inches deep or until the roots of the plug are fully below grade. Plantings will be placed on center at a distance as indicated on the plans. When planting in wooded areas the Contractor shall grub out an area twice the size of the plant pit unless otherwise approved. In planting bed areas existing vegetation shall be removed as directed and an approved weed control will be applied.

iv. In the event that the Contractor identifies detrimental soil conditions, the Engineer shall be notified in writing of the said conditions, along with suggestions for rectifying those conditions. Poor quality subgrade soils shall be removed from the planting pit and replaced with good quality topsoil at no additional expense to the Owner.

v. Plants shall be planted so that the root flare level sits at or slightly higher than the finished grade. In the event that the root flare is buried within the root ball, the top of the ball shall be cut down and any adventitious roots shall be removed.

vi. In the event that the pit is excavated to a greater depth, the pit shall be refilled with the appropriate amount of soil and the soil tamped.

vii. All planting stock shall be nursery-grown in accordance with good horticultural practices.
Plants shall be free of disease, insects, eggs, larvae, and defects, such as knots, sunscald, injuries, abrasions, or disfigurement. They shall be sound, healthy and vigorous, of uniform growth, typical of the species and variety, well-formed, free from irregularities, with the minimum quality conforming to the American Standard for Nursery Stock. No trees or shrubs with wounds larger than ¾” shall be accepted. The Contractor may request to have plant material selected by the Engineer and/or the Owner’s representative prior to delivery on site. This shall not preclude the Engineer and/or the Owner’s representative from rejecting material once on site if in his opinion it has been damaged or fails to meet the specifications.

viii. Plants furnished in containers shall have roots well-established in the soil mass and shall have grown in the container for at least one (1) growing season. Containers shall be large enough to provide earth-root mass of adequate size to support the plant tops being grown. Plants that have been over-established in the container, as evidenced by pot-bound root ends, shall not be accepted.

ix. Groundcovers shall be well-established cuttings and planted by hand. Herbaceous plants shall be planted in the spring after suitable preparation of the planting bed by tilling the soil, allowing the weeds to germinate over a two-week minimum period and tilling once more prior to planting. Groundcovers shall be planted as indicated on the plan. A placement of aged bark mulch shall be spread around all groundcovers to aid in establishment and minimize competition from weeds. The beds shall be maintained in a weed-free condition throughout the guaranteed maintenance period.

x. Preparation of Plants.

1. When preparing plants for moving, all precautions customary in good practice shall be taken. Workmanship that fails to meet the highest standards will not be accepted.

2. Balled and burlaped plants shall have a solid ball of earth of minimum specified size held in place by burlap and a stout rope.

3. Oversize or exceptionally heavy plants are acceptable if the size of the ball or spread of the roots is proportionately increased to the satisfaction of the Engineer and/or the Owner’s Representative.

xi. Delivery. All plants shall be packed, transported, and handled with the utmost care to ensure protection against injury. The Owner reserves the right to identify by suitable non-injurious means such as painting, marking by various methods, etc. all plant material rejected upon delivery to the contract site. Trees with broken, cracked, or damaged root balls shall not be accepted, and the plant material shall be replaced at no extra cost to the Owner. Any inspection certificates required by law shall be included in each shipment invoice.

xii. Inspection.

1. The Contractor shall not plant any plant material until it has been inspected and approved by the Engineer and/or the Owner’s Representative at the site of the project. All plants shall be subject to inspection at any place and at any time. Inspections desired by the Contractor, if approved, shall be at the expense of the Contractor. The Contractor shall be represented at all inspections.

2. Any material with fresh or un-calloused wounds larger than ¾” in diameter may be subject
to rejection. The Engineer and/or Owner’s Representative shall be the sole judge of the quality and acceptability of the materials. All rejected materials shall be immediately removed from the site and replaced with acceptable material at no additional cost to the Owner.

3. The Engineer reserves the right and option to place seals on any or all materials selected. Selection and/or tagging of material shall cover the type and body quality of the plant only and shall not constitute final acceptance, nor preclude the right of rejecting plants not fully meeting requirements of the specifications.

xiii. Storage. All plants shall be properly protected from drying out. Such protection shall be provided while the plants are in transit, while being handled, and while in temporary storage on the job. Bare-root plants which are not planted immediately upon receipt shall be heeled-in trenches with the bundles opened and the plants spaced separately, and all roots covered. Balled plants shall have their earth balls protected by earth or wet cloth or straw, or may be heeled-in as ordered by the Engineer. Plants not protected as specified which have not been planted within two calendar days of delivery, shall be rejected.

xiv. Planting Season. Unless otherwise directed by the Engineer and/or Owner’s Representative:

1. Herbaceous plugs shall be planted between October 1st and April 30th, or as approved by the Engineer and/or the Owner’s Representative.

2. Deciduous material shall be planted between March 1st and May 1st and from October 15th to December 15th, or as approved by the Engineer and/or the Owner’s Representative.

3. Evergreen material shall be planted between April 1st and May 15th and from September 1st to October 15th, or as approved by the Engineer and/or the Owner’s Representative.

4. No planting shall be done with frozen backfill or when the soil or fill is in an unsatisfactory condition for working as determined by the Engineer.

xv. Obstructions Below Ground. Any rock or underground obstructions shall be removed to the depth necessary to permit planting according to the plans and specifications unless other locations for the planting are approved. Explosives may not be used.

C. Substitute Plant Material

i. The Owner, prior to NOTICE-TO-PROCEED, must approve all plant substitutions.

ii. If a substitution is selected, it must be native to the New York State Coastal Plain and of the same size, value, and quality as the original plant.

D. Water

i. Water used in the establishment of caring of plants and seed shall be free from any substance that is injurious to plant life.

ii. Contractor is responsible for temporary irrigation of all plantings until final acceptance and
into the plant warranty period until the plant establishment.

E. Fertilizer:

i. Plant fertilizer is to be applied only to containerized plants. The Contractor shall use organic fertilizers in lieu of petroleum based fertilizers. Suitable products that are commercially available are marketed and certified as “organic” or “natural” fertilizers. Organic materials shall include such items as: sea grasses/kelp, rock powder, bone meal, whey, bean meal, blood meal, composted manure, etc. Product nutrient content shall be identified in the standard form of Nitrogen (N), Phosphorous (P) and Potassium (K) ratios. Typical organic fertilizer nutrient content ranges from 1-1-1 to 10-2-10. The minimum acceptable nutrient content shall be 4-2-4, unless otherwise directed by the Owner.

2.3 Setting Plants

A. Each plant shall be planted in an individual hole, as specified. All holes shall be dug with tapered sides and flat bottoms, or as directed by the Engineer.

B. All plants shall be set to ultimate finished grade or slightly higher so that they will be left in the same relation to the surrounding grade as they were grown in the nursery. In the event that the nursery practices have resulted in soil being placed above the root flare, the extra soil and any advantageous roots shall be removed.

C. The planting detail shall supersede these specifications.

D. All synthetic material shall be removed from the planting pit and root ball. Ropes, wires, and burlap shall be removed from the top and upper ½ of the root ball and hole before filling it in. Burlap shall be properly cut and removed from the sides of the ball and the planting pit.

E. When depth is specified, it shall be understood as meaning depth below finished grade.

F. Excess soil shall be legally disposed of off the site, or as directed by the Engineer.

2.4 Backfilling of Planting Pits.

A. Except as otherwise specified, backfill soil for planting shall consist of clean sand or a planting mixture of four (4) parts topsoil, one (1) part approved commercial horticultural peat moss, as specified on the plans.

B. The preparation of all Planting Soil by mixing shall be done at an approved site, and all quantities shall be examined and approved by the Engineer prior to use on the Contract.

C. Upon approval by the Engineer, existing native soil may be used if the soil is found to be of a suitable quality. Existing subsoil is to be removed from the site by the Contractor.

D. Planting pits and beds shall be back filled carefully to fill all voids and to avoid breaking or bruising roots.

E. An approved fertilizer, shall be placed with the backfill. A sample of the proposed fertilizer shall be submitted to the Engineer for approval prior to the start of work.
F. Tamp backfill firmly to prevent settlement. When the pit is nearly filled, water thoroughly and allow the water to soak away. If settling of the backfill occurs after watering, add more backfill to bring it to level. A slight “saucer” shall be formed around each plant to hold additional water.

2.5 Containerized Shrubs.

A. All shrubs shall be planted in holes at least one (1) foot greater in diameter than the ball of earth or spread of roots. The depth of the holes shall be at least one (1) foot and as much greater as is found to be necessary to set the plant properly at or slightly higher than finished grade.

B. After preparation of the hole as specified, the plant shall be planted in the center of that hole. The hole shall then be filled with topsoil and settled thoroughly by watering.

C. Area between shrubs must be tilled and pulverized to a depth of 6-inches except in those areas within the drip lines of existing trees. A slight “saucer” shall be formed around each plant to hold additional water.

D. Shrubs shall not be planted closer than two (2) feet from the edge of the shrub beds.

PART 3- EXECUTION

3.1 MAINTENANCE

A. During planting, all areas shall be kept neat, clean and free of all trash and debris, and all reasonable precautions shall be taken to avoid damage to existing plants, turf, structures, and private property.

B. Remove all tags, labels, strings and wire from the plant materials, unless otherwise directed by the Engineer.

C. Final cleanup shall be the responsibility of the Contractor and consist of removing all trash and materials incidental to the project and disposing of them off-site.

D. The plant material shall be maintained and monitored for two (2) years after completion, final inspection, and approval of the planting.

E. A schedule of maintenance operations shall be submitted to the Engineer for review and approval and checked periodically for concurrence.

F. All planting areas shall be cultivated and weeded with hoes or other approved tools within the growing season, which extends from May 1st to October 1st. Such cultivating and weeding shall be repeated at least every three (3) weeks. Under no conditions shall weeds be allowed to attain more than six (6) inches of growth. The cost of maintenance shall be included in the price bid.

G. Before commencing any of such work, the Contractor agrees to furnish to the Owners a certificate or certificates of insurance, in form satisfactory to the Owner, showing that the Contractor has complied with this provision as to insurance which certificate or certificates shall provide that the policies shall not be changed or canceled until 30 days written notice has been given to the Owner. The kinds and amounts of insurance shall conform to the requirements specified in the original contract.

H. At the conclusion of this Period of Establishment, the Contractor shall remove all stakes, guy wires and tree wrappings unless otherwise directed. All plants in an unhealthy or badly impaired condition
in the opinion of the Engineer shall be removed and replaced or removed and noted for replacement at the next succeeding planting season as specified on the plans, or in the proposal. No work other than replacement will be required after the conclusion of the period of establishment.

I. It will be the Contractor’s responsibility to supply water if there is none available on the site. Any costs associated with supplying water shall be the responsibility of the Contractor.

3.2 WARRANTY

A. The Contractor shall maintain a two (2) year, 85% care and replacement warranty for herbaceous vegetation and 100% for woody materials.

B. The period of care and replacement shall begin after final inspection and approval of the initial installation of all plants and continue for one (1) year.

C. Plant replacements shall be performed in accordance with these specifications.

In order to satisfy the Warranty, the Contractor shall provide the Owner a two-year separate performance bond in the full amount of the plantings item of the contract applicable for the duration of the Warranty Period.
SECTION 32 92 19

SEEDING

PART 1- GENERAL

1.1 Summary

A. The scope of work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing, delivery, and installation of seed (also known as “landscaping”) complete as shown on the drawings and as specified herein.

B. The scope of work in this section includes, but is not limited to, the following:

   i. Examination.
   ii. Preparation.
   iii. Finish grading.
   iv. Seeding.
   v. Hydroseeding.
   vi. Maintenance and protection.
   vii. Final inspection.

1.2 Contract Documents

A. Shall consist of specifications and general conditions and the construction drawings. The intent of these documents is to include all labor, materials, and services necessary for the proper execution of the work. The documents are to be considered as one. Whatever is called for by any parts shall be as binding as if called for in all parts.

1.3 Related Documents and References

A. Drawings and general provisions of the contract including general and supplementary conditions and Division I specifications apply to the work under this section.

B. Related Specification Section

   i. Item 01 70 00 – Execution and Closeout Requirements (as applicable)

   ii. Item 31 00 00 – Earthwork

   iii. Item 32 90 00 – Planting
C. Meet requirements and recommendations of the applicable portions of the latest editions of Standards listed below:

   i. U.S. Department of Agriculture (SDA)
   ii. Federal Seed Act (FSA)

1.4 Maintenance Data

   A. Submit under provisions of Section 01 70 00 (as applicable).
   B. Maintenance Data: At a minimum, Contractor shall submit a weekly report detailing maintenance performed and establishment progress until the turf is accepted.

1.5 Quality Assurance

   A. Seeds shall be labeled in accordance with the most current U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.
   B. Certification: Every bag of seed shall be accompanied by a Certificate of Analysis indicating whether the material is of a single variety, blend or mixture, and the quality.

1.6 Qualifications

   A. Contractor or Subcontractor shall be required to perform the work specified in the drawings and specifications. All Landscape Horticulturalists shall also have appropriate experience related to the work specified herein.
   B. The Contractor shall provide proof of qualifications for verification.

1.7 Regulatory Requirements

   A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.8 Coordination

   A. Coordinate work under this section and other related work.

PART 2- PRODUCTS

2.1 MATERIALS

   A. Grass seed shall be spread by means of hydroseeding.

      i. Per 1,000 SF:
         1. Seed at 5/lbs. Per 1,000 SF
         2. Mulch: Conwood Fiber as manufactured by Consolidated Wood Conservation Corp. or approved equal.
3. 30% Switchgrass (Panicum Virgatum), 20% Vervain (Verbenia Hastata), And 50% Indian Grass (Sorghastrum Nutans).

4. Fertilizer 2-1-1 or 3-1-1, 50%. Organic.

5. Dolomitic Limestone

B. Grass Seed:

i. Grass seed shall be fresh, recleaned seed of the latest crop, consisting of the mixture specified. It shall be stored as directed by the Owner’s Representative in such a manner that its effectiveness will not be impaired. No grass seed shall be delivered and used at the contract site until approval of grass seed has been given by the Owner’s Representative, but such approval does not constitute final acceptance. The Owner’s Representative reserves the right to reject on or after delivery any material which does not in his opinion meet these specifications.

C. Topsoil

i. The pH of the material shall be between 5.5 and 7.6%

ii. The organic content shall not be less than 6% or more than 12%

iii. Gradation (Sieve Size prevent passing by weight) 1 inch 100%,

   1. No.10 90%-100%
   2. No. 40 45%-80%
   3. No. 200 25%-70%
   4. 2 Microns 5%-35%

D. Commercial Fertilizer:

i. Commercial Fertilizer will be Type A as per the NYSDOT Section 610 Standard Specification and shall have the following composition: Nitrogen (N), Phosphorus (P), and Potassium (K) in a 2-1-1 or 3-1-1 ratio. The fertilizer may be labeled 20-10-10, 30-10-10. The Nitrogen shall be fifty (50) percent organic (from animal sources, e.g. Tankage), and fifty (50) percent inorganic.

ii. All Commercial Fertilizer (2-1-1 or 3-1-1) shall be delivered in standard size bags of the manufacturer, showing weight, analysis and name of manufacturer.

iii. It shall be stored as directed by the Engineer in such a manner that its effectiveness will not be impaired.

iv. The Contractor shall furnish and deliver a representative sample of the Commercial Fertilizer (2-1-1 or 3-1-1) they propose to use to the Engineer. No Commercial Fertilizer (2-1-1 or 3-1-1) is to be delivered and used at the contract site until approval of the sample by the Engineer. The Engineer reserves the right to reject on or after delivery any
material which does not in his opinion meet these specifications. The price bid shall include furnishing and delivery of the sample to the laboratory.

E. Ground Limestone:

   i. Ground Limestone (Calcium Carbonate) shall have the following analysis:

      1. At least fifty (50) percent shall pass a 200 mesh sieve;
      2. At least seventy (70) percent shall pass a 100 mesh sieve; and
      3. One hundred (100) percent shall pass a 10 mesh sieve.
      4. Total carbonates shall not be less than eighty (80) percent or 44.8% calcium oxide equivalent; for purposes of calculation, total carbonates shall be considered as Calcium Carbonate.

F. Mulch:

   i. Mulch shall be a fibrous, wood cellulose product produced for this purpose. It shall be dyed green and shall contain no growth or germination inhibiting substances and shall be manufactured so that when thoroughly mixed with seed, fertilizer, and water in the proportions indicated it will form a homogenous slurry which is capable of being sprayed.

PART 3- EXECUTION

3.1 Construction Details

A. Season:

   i. The seasons for seeding shall be March 15 to May 1 and August 15 to October 1st unless otherwise approved.

   ii. The Contractor shall notify the Engineer at least 48 hours in advance of the time he intends to begin sowing seed and shall not proceed with such work until permission to do so has been obtained. When delays in operations carry the work beyond the dates which are specified, or when conditions of high winds, excessive moisture or ice are such that satisfactory results are not likely to be obtained for any stage of the work, the Engineer will stop the work.

   iii. The work shall be resumed with the Engineer’s approval when the desired results are likely to be obtained or when approved corrective measures and procedures are adopted.

   iv. When sodding is to be done on the same general areas under the same contract, the sodding shall be done before the seed is sown and equipment used during seeding shall cause no damage to the sodded areas.

B. Limitations: The contractor shall notify the Engineer at least 2 working days before the start of any seeding operation and shall not begin the work until the Engineer has given permission.
C. Preparation of Subgrade: The Contractor shall complete subgrading within the areas to be covered by topsoil by bringing the surface of subgrade to the lines and grades as specified on the plans, or as directed by the Engineer. Where specified or directed, the Contractor shall excavate, scarify or till the surface of the subsoil before the topsoil is placed to permit bonding the topsoil layer with the subsoil and allow the topsoil to be placed as per the plans. Equipment shall pass in such a manner that depressions and ridges shall be parallel to the contours. Tillage shall be accomplished by diskng, harrowing, raking, or by other approved methods.

D. Handling Topsoil: If the condition of the soil is unsuitable due to excessive moisture, frost or other conditions, the Contractor shall cease work under this item until the soil is in a suitable condition.

E. Placing Topsoil: Topsoil shall be placed and spread over the areas as shown on the plans, or as directed. After the topsoil is spread, all large stiff clods, rocks, roots or other foreign matter shall be cleared and disposed of by the Contractor as approved so that the finished surfaces will be acceptable for subsequent work of seeding, sodding, planting or mulching.

F. Ground Preparation and Seeding:

i. The Engineer prior to seeding shall approve all turf establishment areas. Areas to be seeded shall be maintained at approved grades and irregularities that will hold water shall be eliminated. Weed growth that, in the Engineer’s judgment, may adversely affect germination or growth shall be removed or controlled as approved or as directed by the Engineer prior to seeding. Limestone, fertilizer and seeds in the amounts specified shall be evenly distributed on the areas to be seeded. All mechanical equipment used for soil preparation or seeding shall be as approved. Equipment shall pass parallel to the contours unless otherwise approved except that crawler tractors shall pass at right angles to the contours.

ii. The finished surface of any area that is seeded shall not be rougher, more uneven or have more or larger stones, clods, roots, or other foreign materials than the area it adjoins. In built up and residential areas hand raking will usually be necessary to produce the required smoothness and uniformity, particularly where grading and turf establishment is to be adjacent to lawns.

iii. Areas to be seeded shall be scarified sufficiently to break up the surface crust immediately before seeding except where in the judgment of the Engineer, the ground is already loose and friable as immediately following grading. All stones and other objects over two inches in greatest dimension or other sizes as specified shall be removed and disposed of as approved. Unless otherwise specified in the contract documents, only limestone and/or fertilizers may be mixed together with the seeds (including legume inoculants when required) immediately before sowing. Any method of sowing that does not injure the seeds in the process of spreading will be acceptable.

iv. The seed that is placed must be watered and established, with grass grown approximately 2.5” high for final payment to be made.

G. Mulching: Mulch shall be spread uniformly in a continuous blanket of sufficient thickness to hide the soil from view, taking care not to over apply. Mulch may be spread by hand or by machinery. Mulch may be spread before seeding turf but not later than 72 hours after seeding turf unless otherwise approved or directed. Anchorage is required unless otherwise specified in the contract.
documents. Mulch and mulch anchorage shall be applied separately from seeds unless otherwise specified in the Contract Documents.

H. Liability: When the Engineer determines that any seeded area has failed for any reason to produce a satisfactorily established turf after a suitable period of time has elapsed, the Contractor shall repeat all the work required by this Section until a satisfactory growth of turf has been established. Any work to be corrected shall be at the Contractor’s expense. The contract will not be accepted until a satisfactory turf has been established.

Care During Construction: The Contractor shall care for seeded turf areas until final acceptance of the contract. Care shall consist of providing protection against traffic by providing approved warning signs or barricades; and shall consist of repairs to any seeded turf areas damages by wind, water, fire, traffic, or other causes. Damaged areas shall be repaired to re-establish the condition and grade of the area prior to seeding and shall then be re-fertilized, reseeded, and re-mulched as specified herein.