

**TOWN OF SCARBOROUGH PLANNING & PUBLIC
WORKS DEPARTMENT**

SPURWINK ROAD IMPROVEMENTS PHASE 1

BIDDING DOCUMENTS FOR CONSTRUCTION

RFP# 182023



Prepared by:

**St. Germain
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This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

ADVERTISEMENT FOR BIDS FOR CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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GUIDELINES FOR USE OF EJCDC® C-111, ADVERTISEMENT FOR BIDS FOR CONSTRUCTION CONTRACT

1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT

EJCDC® C-111, Advertisement for Bids for Construction Contract, is a standard form to be used to alert prospective bidders and potential subcontractors to an upcoming Project. The document includes guidance in the preparation of the advertisement for a specific Project. The document may be modified to serve as an invitation to bid, rather than an advertisement.

The model language of C-111 is predicated on a competitive bidding process and the use of Contract Documents that contain the following documentary information for a construction project:

- Bidding Requirements, which include the advertisement (or an invitation to bid), the Instructions to Bidders, the Bid Form, and Bid Form attachments (if any) such as Bid Bond Form and Qualifications Statement; and
- Contract Documents, which include the Agreement, Performance Bond and Payment Bond, the General Conditions, the Supplementary Conditions, the Drawings, and the Specifications. Note also that the Supplementary Conditions and other Contract Documents, and the Instructions to Bidders, may refer to other documents that are provided to or made available to Bidders for reference purposes, but which are not Contract Documents.

The terms “Bidding Documents,” “Bidding Requirements,” and “Contract Documents” are defined in Article 1 of the General Conditions. Bidding Requirements and the Contract Documents together are referred to as the Bidding Documents.

The Bidding Requirements are not Contract Documents. Much of their substance pertains to the relationships prior to the award of the Contract and has little effect or impact thereafter. Contracts may even be awarded without going through a bidding process, and thus have no Bidding Requirements. For this reason, the Contract Documents are written to function without including the Bidding Requirements.

EJCDC recognizes that advertisements for bids vary widely in response to project owner preferences and statutory requirements. EJCDC has prepared this Advertisement for Bid for Construction Contract as a guideline for users where discretion is allowed in the preparation of the advertisement, and as a suggested form that is well coordinated with the associated Instructions to Bidders and other EJCDC documents. Because an advertisement for bids is typically published in a periodical such as a newspaper (often at the Owner’s cost) or construction trade subscription service, the advertisement is typically brief.

While the model language of C-111 is written as a public advertisement to any and all qualified potential Bidders, it can be adapted with relatively little revision to serve as an “invitation to bid” for use in a closed bidding process in which only prequalified prospective Bidders, selected in advance by the Owner, Engineer, or a construction manager, are invited to submit Bids. Considerably more revision to this document would be required to adapt the model language of C-111 and EJCDC® C-200, Instructions to Bidders for Construction Contract (2018), for use as a “request for proposals,” because a proposal implies the potential for negotiation on the Project’s scope, approach, and pricing, whereas a Bid is typically non-negotiable pricing submitted in a mandated format for a predetermined, non-negotiable scope of Work.

The advertisement should contain information sufficient only to:

- Identify the Project and the Owner.
- Indicate when and where Bids will be received and opened.
- Include an extremely brief summary of the general types of Work involved.
- Indicate where the Bidding Documents may be examined and where and how copies of the Bidding Documents may be obtained.
- Indicate whether, where, and when a pre-bid conference will be conducted, and whether attendance at the pre-bid conference is a condition precedent to submitting a Bid.
- Comply with any statutory requirements applicable to the advertisement.
- Indicate the date of the advertisement.

Other extraneous information, including detailed descriptions of the scope of the Work and topics that are otherwise covered in the Instructions to Bidders, are undesirable and should generally be avoided, to reduce the potential for conflicting with other requirements of the Bidding Documents. For additional information on the suggested content of the advertisement, refer to EJCDC® C-001, Commentary on the 2018 EJCDC Construction Documents (2018).

2.0 OTHER DOCUMENTS

EJCDC documents are intended to be used as a system and changes in one EJCDC document may require a corresponding change in other documents. Other EJCDC documents may also serve as a reference to provide insight or guidance for the preparation of this document.

While preparing this document for use on a specific project, the user may decide to revise or supplement some of the standard provisions. When such changes are made, the user should review whether corresponding changes are needed in the following related EJCDC documents:

EJCDC Doc. No.	Document Title	Edition
C-200	Instructions to Bidders for Construction Contract	2018

Other documents that provide relevant additional information or guidance for the use of this document include the following:

EJCDC Doc. No.	Document Title	Edition
C-001	Commentary on the 2018 EJCDC Construction Documents	2018
C-200	Instructions to Bidders for Construction Contract	2018
C-410	Bid Form for Construction Contract	2018
C-430	Bid Bond (Penal Sum Form)	2018
C-435	Bid Bond (Damages Form)	2018
C-451	Qualifications Statement	2018
C-520	Agreement between Owner and Contractor for Construction Contract (Stipulated Sum)	2018
C-525	Agreement between Owner and Contractor for Construction Contract (Cost-Plus-Fee)	2018
C-700	Standard General Conditions of the Construction Contract	2018
C-800	Supplementary Conditions of the Construction Contract	2018

3.0 ORGANIZATION OF INFORMATION

All parties involved in a construction project benefit significantly from a standardized approach in the location of subject matter throughout the documents. Experience confirms the danger of addressing the same subject matter in more than one location; doing so frequently leads to confusion and unanticipated legal consequences. Careful attention should be given to the guidance provided in EJCDC® N-122/AIA® A521, Uniform Location of Subject Matter (2012 Edition) when preparing documents. EJCDC® N-122/AIA® A521 is available at no charge from the EJCDC website, www.ejcdc.org, and from the websites of EJCDC's sponsoring organizations.

If CSI MasterFormat™ is used for organizing the Project Manual, consult CSI MasterFormat™ for the appropriate document number (e.g., under 00 11 00, Advertisements and Invitations), and accordingly number the document and its pages.

4.0 GUIDANCE NOTES AND NOTES TO USER

EJCDC Documents include Guidance Notes and Notes to User to provide guidance regarding the preparation of Project specific documents. These notes are intended for use by the User in the preparation of the document and are not intended to be included in the completed document. Guidance Notes and Notes to User are lightly shaded to distinguish them from the proposed text of the Advertisement. As a project-specific Advertisement is prepared and made ready for publication, all shaded text (Guidance Notes and Notes to Users) should be deleted.

Guidance Notes provide information regarding the paragraph which follows, including reasons for the paragraph, discussions of best practices, and alternate approaches for different situations.

Notes to User provide specific information for editing the document. When alternate paragraphs for different situation are presented, explanations on how to select the most appropriate alternate will be provided, with direction to delete those paragraphs not used.

5.0 EDITING THIS DOCUMENT

5.1 It is intended that this document be edited for each Contract. Guidelines for editing include:

- A. Remove the cover pages which consist of the title pages and these Guidelines for Use.
- B. Type in required information as indicated by brackets ([]). Bracketed text will usually provide instructions for what is to be inserted in place of the brackets. Delete brackets and change formatting to match existing text after project specific text has been added, e.g. change “[Project Name]” to “Peach Street Renovation” (without brackets or bold, or quotation marks).
- C. Fill in blanks, if any. It will be more common for information to be inserted by user to be indicated by a prompt in brackets, as described in Paragraph B above, rather than by an underline-style blank.
- D. Most Notes to User are presented before the text to which they apply; some Notes to Users are interspersed in the text, usually within brackets. Delete all “Notes to User” after reviewing each note and taking appropriate action. Delete all associated numbering and brackets.
- E. Complete tables.
- F. Delete all Guidance Notes.

6.0 LICENSE AGREEMENT

This document is subject to the terms and conditions of the **License Agreement, 2018 EJCDC® Construction Series Documents**. A copy of the License Agreement was furnished at the time of purchase of this document, and is available for review at www.ejcdc.org and the websites of EJCDC's sponsoring organizations.

ADVERTISEMENT FOR BIDS

**Town of Scarborough
Scarborough, Maine
Spurwink Road Improvements Phase 1**

General Notice

The Town of Scarborough (Owner) is requesting Bids for the construction of the following Project:

**Spurwink Road Improvements Phase 1
RFP# 182023**

Bids for the construction of the Project will be received at the **Town Managers Conference Room in Town Hall** located at **259 U.S. Route 1 in Scarborough Maine**, until **Thursday, May 25, 2023 at 10 AM** local time. At that time the Bids received will be **publicly** opened and read.

The Project includes the following Work:

The widening and full-depth reclamation of Spurwink Road from approximately the Ocean Avenue intersection to just beyond the Pleasant Hill Road intersection (approximately 2,900 feet). Work also includes approximately 9,950 square yards of full depth recycling with cement, 2,000 linear feet of asphalt sidewalk construction, stormwater infrastructure (6 catch basins and storm drains) slipform concrete curbing, and pavement striping.

Work will be allowed to begin promptly after Labor Day, 2023.

Bids are requested for the following Contract: **Spurwink Road Improvement Phase 1 RFP # 182023**

Obtaining the Bidding Documents

Information and Bidding Documents for the Project can be found at the following designated website:

<https://www.scarboroughmaine.org/departments/purchasing/solicitations>

Bidding Documents may be downloaded from the designated website. Prospective Bidders are urged to register with the Town's Vendor Self Service Portal as a plan holder, even if Bidding Documents are obtained from a plan room or source other than the designated website in either electronic or paper format. The designated website will be updated periodically with addenda, lists of registered plan holders, reports, and other information relevant to submitting a Bid for the Project. All official notifications, addenda, and other Bidding Documents will be offered only through the designated website. Neither Owner nor Engineer will be responsible for Bidding Documents, including addenda, if any, obtained from sources other than the designated website.

Bid Security in the amount of 5 percent of the Bid must accompany the Bid in accordance with the Instructions to Bidders.

Instructions to Bidders.

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: Town of Scarborough

By: Kim Morrison

Title: Purchasing Specialist

Date: 05/05/2023 [Date of initial publication of advertisement]

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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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. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

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 Owner has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website 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. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer 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. After the Contract is awarded, the Owner will provide or direct the Engineer to provide for the use of the Contractor documents that were developed by Engineer as part of the Project design process, as Electronic Documents in native file formats.
 - 1. Electronic Documents that are available in native file format include, but are not limited to:
 - a. **C-620 (Application for Payment) and C-941 (Change Order)**
 - 2. Release of such documents will be solely for the convenience of the Contractor. No such document is a Contract Document.
 - 3. Unless the Contract Documents explicitly identify that such information will be available to the Successful Bidder (Contractor), nothing herein will create an obligation on the part of the Owner or Engineer to provide or create such information, and the Contractor is not entitled to rely on the availability of such information in the preparation of its Bid or pricing of the Work. In all cases, the Contractor shall take appropriate measures to verify that any electronic/digital information provided in Electronic Documents is appropriate and adequate for the Contractor's specific purposes.
 - 4. In no case will the Contractor be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related document in native file format.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
 - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.

ARTICLE 4—PRE-BID CONFERENCE

4.01 A pre-bid conference will not be conducted for this Project.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

- 1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
- 2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

5.03 *Other Site-related Documents*

- A. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to

schedule, access, existing operations, security, liability insurance, and applicable safety programs.

- D. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

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 Engineer in writing via email. Contact information and submittal procedures for such questions are as follows:
 - A. **Kyle Jacobson** - kylej@stgermain.com
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 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 (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.
- 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.
- 9.02 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 10—SUBSTITUTE AND "OR EQUAL" ITEMS

- 10.01 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 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given,

request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, without an increase in Bid price.

- 11.02 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 Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the corporate secretary or an assistant corporate secretary. The corporate address and state of incorporation shall be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder’s name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.

- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 *Unit Price*

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. 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.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 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.

- 14.03 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 BID

- 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 24 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 the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of

the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid, and whose Bid is in the best interests of the Project and public.

18.05 *Evaluation of Bids*

- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

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 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 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 10 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 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 21—SALES AND USE TAXES

- 21.01 Owner is exempt from Maine state sales tax on materials and equipment to be incorporated in the Work. Said taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

ARTICLE 22—EQUAL EMPLOYMENT OPPORTUNITY, ANTI-DISCRIMINATION, AND AFFIRMATIVE ACTION

- 22.01 Provisions regarding the requirements for equal employment opportunity, anti-discrimination, and affirmative action programs if any, are set forth in the Supplementary Conditions.

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Town of Scarborough

Attention: Kim Morrison, Purchasing Specialist

259 U.S. Route 1

Scarborough, Maine 04070

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- F. Required Bidder Qualification Statement with supporting data; and

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices:

BID SCHEDULE
SPURWINK ROAD PHASE 1

Item Number	Description	Unit	Estimated Quantity	Unit Price	Bid Amount
203.2	Common Excavation	CY	100		
206.07	Structural Rock Excavation	CY	10		
304.1	Agg Subbase Course Type D	CY	950		
304.14	Agg Base Course Type A	CY	200		
308.36	Full Depth Recycling With Cement	SY	9950		
312.1	Bituminous Driveway Apron	SY	115		
403.207	Hot Mix Asphalt 19.0 MM	T	1150		
403.208	Hot Mix Asphalt 12.5 MM	T	1700		
603.159	12-Inch Diameter PVC or HDPE Storm Drain Pipe	LF	636		
603.169	15-inch Diameter PVC or HDPE Storm Drain Pipe	LF	176		
603.179	18-Inch Diameter PVC or HDPE Storm Drain Pipe	LF	132		
603.199	24-Inch Diameter PVC or HDPE Storm Drain Pipe	LF	308		
604.249	Catch Basin Type F6-C	EA	6		
604.18	Adjusting Manhole or Structure to Grade	EA	2		
606.15	Guardrail Type 3a-Single Rail	LF	275		
606.25	Terminal Connector	EA	2		
606.471	Single Wood Post - Mailbox - Relocate	EA	18		
608.26	Curb Ramp Detectable Warning Field	SF	40		
608.5	Hot Bituminous Sidewalk	SY	1075		
609.21	Slipform Concrete Curb	LF	900		
610.08	Plain Riprap	CY	15		
615.072	Loam, Seed and Mulch	SY	1800		
627.71	4" White or Yellow Pavement Marking Line, Plan Quantity	LF	5200		
627.72	6" White Pavement Marking Line	LF	5400		
627.75	White or Yellow Pavement and Curb Markings	LS	1		
629.05	Hand Labor, Straight Time	HR	40		
631.120	All Purpose Excavator (inc operator)	HR	40		
631.121	Heavy Duty Excavator (inc operator)	HR	40		
631.13	Bulldozer (inc operator)	HR	40		
631.172	Truck - Large or Small (inc operator)	HR	40		
631.22	Front End Loader (inc operator)	HR	40		
631.36	Foreman, Straight Time	HR	40		
643.92	Pedestal Pole	EA	1		
645.106	Demount and Reinstall Regulatory, Warning, Confirmation an	EA	25		
652.361	Maintenance of Traffic Control Devices	LS	1		
652.38	Flagger	LS	1		
652.381	Traffic Officer	LS	1		
652.41	Portable Changeable Message Signs	LS	1		
656.75	Temporary Soil Erosion and Water Pollution Control	LS	1		
659.1	Mobilization and General Conditions	LS	1		
674.10	Prefabricated Concrete Modular Gravity Wall	SF	965		

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding 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 Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
6. Based on the information and observations referred to in the preceding paragraph, Bidder 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.
7. Bidder 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 Bidding Documents.
8. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
9. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
10. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 6.02.A:
 - a. 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.

- b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. 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.
 - d. 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.
- 5. Bidder will comply with the requirements of the safety and Health provisions in the Contract Documents, and if Bidder is awarded a Contract, it shall incorporate these provisions into all subcontracts and Purchase Orders so that such provisions will be binding upon each Subcontractor or Supplier.
 - 6. Bidder will comply with the requirements of the Equal Employment Opportunity, Anti-Discrimination, and Affirmative Action Program provisions in the Contract Documents, and if the bidder is awarded a Contract, it shall incorporate these provisions into all subcontracts and Purchase Orders so that such provisions will be binding upon each Subcontractor or Supplier.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

If Bidder 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)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address:

Bidder's Contractor License No.: (if applicable)

Communications concerning this Bid shall be addressed to:

Name: _____

Title: _____

Business Address: _____

Phone & Fax Number: _____

Email Address: _____

BID BOND (PENAL SUM FORM)

Bidder Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: Address <i>(principal place of business)</i> :	Bid Project <i>(name and location)</i> : Bid Due Date:
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
<i>(Full formal name of Bidder)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature) (Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

Legal Name of Business:			
Corporate Office			
Name:		Phone number:	
Title:		Email address:	
Business address of corporate office:			
Local Office			
Name:		Phone number:	
Title:		Email address:	
Business address of local office:			

1.02 Provide information on the Business's organizational structure:

Form of Business:	<input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation		
<input type="checkbox"/> Limited Liability Company <input type="checkbox"/> Joint Venture comprised of the following companies:			
1.			
2.			
3.			
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:		State in which Business was formed:	
Is this Business authorized to operate in the Project location?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending	

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:

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			

- 1.04 Provide information regarding the Business's officers, partners, and limits of authority.

Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	

ARTICLE 2—LICENSING

- 2.01 Provide information regarding licensure for Business:

Name of License:			
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

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

Certification	Certifying Agency	Certification Date
<input type="checkbox"/> Disadvantaged Business Enterprise		
<input type="checkbox"/> Minority Business Enterprise		
<input type="checkbox"/> Woman-Owned Business Enterprise		
<input type="checkbox"/> Small Business Enterprise		
<input type="checkbox"/> Disabled Business Enterprise		
<input type="checkbox"/> Veteran-Owned Business Enterprise		
<input type="checkbox"/> Service-Disabled Veteran-Owned Business		
<input type="checkbox"/> HUBZone Business (Historically Underutilized) Business		
<input type="checkbox"/> Other		
<input type="checkbox"/> None		

ARTICLE 4—SAFETY

- 4.01 Provide information regarding Business's safety organization and safety performance.

Name of Business's Safety Officer:		
Safety Certifications		
Certification Name	Issuing Agency	Expiration

- 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).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

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:		<input type="checkbox"/> Attached
Date of Business's most recent audited financial statement:		<input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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.):			
Insurance Provider		Type of Policy (Coverage Provided)	
Are providers licensed or authorized to issue policies in the Project location?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does provider have an A.M. Best Rating of A-VII or better?		<input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Been barred from contracting by any local, state, or federal agency within the last 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Been released from a bid in the past 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Defaulted on a project or failed to complete any contract awarded to it? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Refused to construct or refused to provide materials defined in the contract documents or in a change order? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Been a party to any currently pending litigation or arbitration? <input type="checkbox"/> Yes <input type="checkbox"/> 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:

Phone:

Email:

Schedule A—Current Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule C—Key Individuals

Project Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Project Superintendent			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

Safety Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Quality Control Manager			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

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. May also be referred to as “proposal” which may be used interchangeably and shall have the same meaning.
 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 and complement the Specifications. May also be referred to as "Plans", which may be used interchangeably and shall have the same meaning. Notes on Drawings are directed to the Contractor unless specifically noted otherwise.
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. May also be referred to as “Construction Schedule” which may be used interchangeably and shall have the same meaning.
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.

B. Additional Terms

1. Final Completion – The time at which all Work is completed and ready for final payment in Accordance with Paragraph 15.06 of these General Conditions.
2. Punch List – A list of open items representing portions of the work which Contractor, Engineer, Owner reasonably agree is not complete on the date of Substantial Completion, but which items will not significantly interfere with the safe, reliable operation and integrity of the Project or its intended use.
3. Warranty Period – The correction period after the date of Substantial Completion per Paragraph 15.08 of these General Conditions.

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~~ Prior to execution 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*: ~~Prior to the execution of the Agreement~~ Prior to the execution of the Agreement ~~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 which will be confirmed in writing by Contractor at the time of submission. 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 a 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 Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) 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.

3. Contractor shall ~~not~~ be liable to Owner or Engineer for failure to report any such conflict, error, ambiguity, or discrepancy in the Contract Documents unless if Contractor knew or reasonably should have known of such conflict, error, ambiguity or discrepancy had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *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 conditions 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 or,
 - d. written notice is submitted after final payment.
- 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 unless Contractor caused or contributed to such Hazardous Environmental Condition.

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.
 - 1. Required Performance Bond Form: The performance bond that Contractor furnishes will be in the form of EJCDC C-610, Performance Bond (2018).
 - 2. Required Payment Bond Form: The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).
- 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 General Conditions Article 6.03 D.
- 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; and,;
 - 6. claims for damages because of negligent acts, errors and omissions arising out of performing or providing professional services.
- 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 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. In the event general liability insurance is provided on a claims-made policy, the retroactive date of such policy shall not be later than the date of the Notice to Proceed or the Effective Date of the Agreement, whichever is earlier. For construction periods extending beyond the expiration date of an initial claims-made policy, the retroactive date of all subsequent claims-made policies shall not be later than the date of the Notice to Proceed.
- D. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
1. Workers' Compensation and related coverage:
- | | |
|--|--------------------|
| <u>Minimum limit of liability</u> | <u>Statutory</u> |
| <u>Applicable Federal (e.g., Longshoreman's)</u> | <u>Statutory</u> |
| <u>Employer's Liability</u> | <u>\$1,000,000</u> |
2. Contractor's General Liability:
- \$1,000,000 per occurrence; \$2,000,000 general aggregate; including:
- Broad Form Property Damage Liability including coverage for acts of terrorism
 - Completed Operations and Product Liability
 - Contractual Liability
 - Independent Contractors
 - Explosion, Collapse & Underground Hazards
 - Personal Injury Coverage, Exclusion Deleted
 - Damage to Rented Premises
 - Medical Expenses
- Pollution Liability (covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from the Contractor's operations and completed operations maintained for no less than three years after final completion):
\$1,000,000
- Excess or Umbrella Liability: \$5,000,000 per occurrence; \$5,000,000 general aggregate
3. Automobile Liability: Combined Single Limit of \$1,000,000 for bodily injury & property damage covering Contractor and any vehicles owned, hired and non-owned by the Contractor
4. Professional Liability (E&O for engineers, architects, or surveyors): \$1,000,000 for each claim with an annual aggregate of at least \$2,000,000 if professional services are required under the Specifications

Any self-insured retention (not allowed for Worker's Compensation) and/or deductibles must be identified and cannot exceed \$100,000 per occurrence without the prior approval of the Owner. Contractor must provide either an audited financial statement to confirm solvency or a letter of credit guaranteeing the \$100,000 in case of loss for the duration of the Project and Correction Period.

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.

EJCDC® C-700, Standard General Conditions of the Construction Contract.

Revisions highlighted within text have been prepared by St.Germain for the Town of Scarborough.

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- 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.

D. Provision of any instructions:

- 1. will not be effective to assign to Owner, or any of Owner's consultants , agents or employees and duty or authority to supervise or direct the furnishing of performance of the Work or any duty or authority to undertake responsibility contract to the provisions of Paragraph 9.09; and,
- 2. will not be effective to assign to Engineer, or any of Engineer's consultants , agents or employees and duty or authority to supervise or direct the furnishing of performance of the Work or any duty or authority to undertake responsibility contract to the provisions of Paragraph 10.07.

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 may request 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*: Engineer 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.
 - 1. Such agreement between Contractor and Subcontractor or Supplier shall specifically include dispute resolution provisions similar to those in Article 17 (if any) and provisions required by Laws and Regulations identified in the various Supplementary Conditions.
- 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 observes that the Specifications or Drawings are at variance with any Laws or Regulations, Contractor shall give Engineer prompt written notice thereof, and any necessary changes will be authorized by one of the methods set forth in Article 3. 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 in accordance with Subcontractor warranties, manufactures and Suppliers warranties on equipment and material, and extended or special warranties and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
1. Contractor shall obtain and preserve for the benefit of the Owner:
 - a. manufactures' and Suppliers' written warranties and guarantees on equipment and material incorporated into the Work.
 - b. written warranties and guarantees for each Subcontractor engaged in the performance of the Work; and
 2. extended or special warranties.

- 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; ~~or~~ 10. any acceptance by Owner or failure to do so.
- 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, defend

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 or wrongful 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.

1. Without limiting the generality of the preceding Paragraph, the Contractor, hereby specifically agrees to indemnify, defend, and hold harmless the Owner and Engineer from all such claims, losses or expenses which arise out of injuries of employees of the Contractor or any of its Subcontractors or Suppliers of any tier related to performance of the Work. It is the Owner intention that all financial risk of injuries related to the Work be borne by the Contractor, and that the Owner have no financial responsibility, direct or indirect, for all such claims.

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. However, the Owner shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto. 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. However, the Engineer shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto.

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 herein, 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.
- C. The Resident Project Representative (RPR) will 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.

b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.

6. *Payment Requests:* Review Applications for Payment with Contractor.

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.

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. However, the Engineer

shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto. 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.

F. Engineer will have no responsibility or authority:

- 1. To order changes in construction which will result in additional costs or which will require extensions of Contract Times;
- 2. to suspend all or any portion of Contractor's operations;
- 3. to terminate all or any portion of the Work;
- 4. to make final acceptance of all or any portion of the Work; and
- 5. to operate or maintain any portion of the Work.

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~~ 10 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~~ 10 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.
 - 1. Contractor shall not have the right to stop performance of the Work pending a resolution of a Claim.
- 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.
 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 is 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 most current edition of Rental Rate Blue Book® for construction equipment published by EquipmentWatch® 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, expeditors, 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.
 - a. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.
- 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: (Not used)~~
 - ~~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 Paragraph 13.02.C allowances, and the Contract Price will be correspondingly adjusted. Contractor shall not receive payment for any unused portion of the contingency allowance.

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. ~~(Not Used) 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, or immediately in the case of an emergency, 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 and final testing has been completed in accordance with the General Requirements, 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, warranties per Paragraph 7.17, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12),

and other documents, and Engineer has indicated that the Work is acceptable, 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 and Notice of Completion;
 - 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 herein:
 - a. Either party may give the other party written notice of any Dispute not resolved.
 - b. Managers of both parties at levels at least one level above the Project personnel involved in the dispute shall meet at a mutually acceptable time and place within five business days after delivery of such notice, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt to resolve the Dispute.
 - c. If the matter has not been resolved within 30 days from the referral of the Dispute to the managers, or if no meeting has taken place within 10 days after such referral, either party may initiate mediation as provided in Article 12.
 - ~~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.~~

17.02 *Attorneys' Fees*

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

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.

NOTICE OF AWARD

Date of Issuance:

Owner:

Owner's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

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:

The widening and full-depth reclamation of Spurwink Road from approximately the Ocean Avenue intersection to just beyond the Pleasant Hill Road intersection (approximately 2,917 feet). Work also includes approximately 2,000 linear feet of asphalt sidewalk construction, curbing, stormwater infrastructure (8 catch basins, approximately, 600 feet of 12" HDPE pipe, 350 feet of 15" HDPE pipe, 45 feet of 18" HDPE pipe, and 105 feet of 24" HDPE pipe), asphalt curbing, and pavement striping.

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 ten (10) days of the date of receipt of this Notice of Award:

1. Deliver to Owner **three (3)** 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.

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: **Town of Scarborough**

By (signature): _____

Name (printed): _____

Title: _____

Copy: Engineer

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between Town of Scarborough ("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:

The widening and full-depth reclamation of Spurwink Road from approximately the Ocean Avenue intersection to just beyond the Pleasant Hill Road intersection (approximately 2,900 feet). Work also includes approximately 9,950 square yards of full depth recycling with cement, 2,000 linear feet of asphalt sidewalk construction, curbing, stormwater infrastructure (6 catch basins, approximately, 600 feet of 12" HDPE pipe, 175 feet of 15" HDPE pipe, 132 feet of 18" HDPE pipe, and 308 feet of 24" HDPE pipe), slipform concrete curbing, and pavement striping.

ARTICLE 2—THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Spurwink Road Improvements Phase 1.

ARTICLE 3—ENGINEER

- 3.01 The Owner has retained St.Germain ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by Engineer and that same entity prepared the design.

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. Phase 1 will be substantially complete on or before October 27, 2023, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before December 1, 2023.

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). Contractor shall pay Owner **\$325** for each day that expires after such time until the Work is completed and ready for final payment.

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. **5%** percent of the value of the Work completed (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.

6.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of 2 percent per annum.

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. Specifications as listed in the table of contents of the project manual (copy of list attached).
 - 5. Drawings (not attached but incorporated by reference) consisting of **15** sheets with each sheet bearing the following general title: Spurwink Road Improvement Project.
 - 6. Addenda (numbers _____ to _____, inclusive).
 - 7. Exhibits to this Agreement (enumerated as follows):
 - a. Geotechnical Report, Roadway Evaluation, Spurwink Road, Scarborough Maine, by Summit Geoengineering Services dated 10/4/2021.
 - 8. 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.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- 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.
 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
 5. 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.
 6. 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.
 7. 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.
 8. 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.
 9. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
 10. 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 (2018), 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.

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:

Contractor:

(typed or printed name of organization)

(typed or printed name of organization)

By: _____
(individual's signature)

By: _____
(individual's signature)

Date: _____
(date signed)

Date: _____
(date signed)

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

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

Attest: _____
(individual's signature)

Attest: _____
(individual's signature)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

Address for giving notices:

Designated Representative:

Designated Representative:

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Address:

Phone: _____

Phone: _____

Email: _____

Email: _____

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

License No.: _____
(where applicable)

State: _____

NOTICE TO PROCEED

Owner: _____ Owner's Project No.: _____
Engineer: _____ Engineer's Project No.: _____
Contractor: _____ Contractor's Project No.: _____
Project: _____
Contract Name: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on **[date Contract Times are to start]** 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 **[date for Substantial Completion, from Agreement]**, and the date by which readiness for final payment must be achieved is **[date for readiness, from Agreement]**.

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner: Town of Scarborough
By (signature): _____
Name (printed): _____
Title: _____
Date Issued: _____
Copy: Engineer

PERFORMANCE BOND

Contractor Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: Mailing address <i>(principal place of business)</i> :	Contract Description <i>(name and location)</i> : Spurwink Road Improvement Project Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16	
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.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>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.</i>	

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: **[Describe modification or enter “None”]**

PAYMENT BOND

Contractor Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: Mailing address <i>(principal place of business)</i> :	Contract Description <i>(name and location)</i> : Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18	
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.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>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.</i>	

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: **[Describe modification or enter "None"]**

Contractor's Application for Payment

Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____	Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____
Application No.: _____ Application Date: _____	
Application Period: From _____ to _____	

1. Original Contract Price	\$	-
2. Net change by Change Orders	\$	-
3. Current Contract Price (Line 1 + Line 2)	\$	-
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. _____ X \$ _____ - Work Completed =	\$	-
b. _____ X \$ _____ - 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 + Line 5.c)	\$	-

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 By: _____ Title: _____ Date: _____	Approved by Owner By: _____ Title: _____ Date: _____
Approved by Funding Agency By: _____ Title: _____ Date: _____	By: _____ Title: _____ Date: _____

Contractor's Application for Payment

Owner: _____
 Engineer: _____
 Contractor: _____
 Project: _____
 Contract: _____

Owner's Project No.: _____
 Engineer's Project No.: _____
 Contractor's Project No.: _____

Application No.:	Application Period:	From	to	Application Date:
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A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Original Contract											
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Contractor's Application for Payment

Owner: _____
 Engineer: _____
 Contractor: _____
 Project: _____
 Contract: _____

Owner's Project No.: _____
 Engineer's Project No.: _____
 Contractor's Project No.: _____

Application No.:	Application Period:	From	to	Application Date:
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A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Change Orders											
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CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:
Engineer:
Contractor:
Project:
Contract Name:

Owner's Project No.:
Engineer's Project No.:
Contractor's Project No.:

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

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

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:

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

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

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

By (signature): _____

Name (printed): _____

Title: _____

NOTICE OF ACCEPTABILITY OF WORK

Owner: _____ Owner's Project No.: _____
Engineer: _____ Engineer's Project No.: _____
Contractor: _____ Contractor's Project No.: _____
Project: _____
Contract Name: _____
Notice Date: _____ Effective Date of the Construction Contract: _____

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated _____ ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

CHANGE ORDER NO.: [Number of Change Order]

Owner:

Engineer:

Contractor:

Project:

Contract Name:

Date Issued:

Owner's Project No.:

Engineer's Project No.:

Contractor's Project No.:

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]

Change in Contract Price	Change in Contract Times [State Contract Times as either a specific date or a number of days]
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. [Number of previous Change Order] : \$ _____	[Increase] [Decrease] from previously approved Change Orders No.1 to No. [Number of previous Change Order] : Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] this Change Order: \$ _____	[Increase] [Decrease] this Change Order: Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____

Recommended by Engineer (if required)

Accepted by Contractor

By: _____

Title: _____

Date: _____

Authorized by Owner

Approved by Funding Agency (if applicable)

By: _____

Title: _____

Date: _____

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1. REQUIREMENTS INCLUDED

- A. The Work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies, and manufactured articles; furnishing all transportation and services including fuel, power, water and essential communications; and performance of all labor, work, or other operations required for fulfillment of the Contract in strict accordance with the Specifications, Drawings, and other Contract Documents as herein before defined, all of which are made a part hereof. The Work shall be complete, and all work, materials and services not expressly shown or called for in the Contract Documents which may be necessary for the complete and proper construction of the Work in good faith shall be performed, furnished, and installed by the Contractor as though originally so specified or shown, at no increase in cost to the Owner.

1.2. WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work to be performed under this Contract shall consist of, but not be limited to completion of The Spurwink Road Improvement Project including temporary and permanent erosion control, clearing and grubbing, pavement removal, earthwork, subbase and base gravels, full depth pavement reclamation, pavement, curbing, striping, utility relocation, storm drains, manholes catch basins, loam, seed, signage, and other incidental work.

1.3. CONTRACT METHOD

- A. The Work hereunder will be constructed under a combination of lump sum and unit prices as indicated in the Bid Schedule.
- B. The Contractor shall include the Construction Contract as a part of all subcontract documents.

1.4. CONTRACTOR USE OF PROJECT SITE

- A. The Contractor's use of the project site shall be limited to its construction operations. On-site storage of materials and field offices will not be allowed. Contractor will be responsible for procuring his own storage areas in the project vicinity.

- END OF SECTION -

SECTION 01011

EXISTING UTILITIES

PART 1 GENERAL

1.1. INTERFERENCES

- A. The Engineer has made an attempt to show all existing utilities that are in the vicinity of the Work on this project.
 - 1. "Existing Utilities" does not include individual house services. The Contractor should assume that each structure along the route of the Work has at least one set of utility services.
- B. Interferences shown on the Contract Drawings shall be rectified at no additional cost to the Owner.
 - 1. The cost of correcting known interferences with existing utilities shall be included in the cost of new Work.
- C. Interferences not shown on the Contract Drawings shall be rectified by the Contractor.

The Contractor shall be reimbursed by the Owner for correcting interferences with existing utilities not shown on the Contract Drawings as an extra work order.

- 1. The Contractor shall make no claims against the Owner for delays in the progress of his Work which are less than one day in duration and are caused by the unshown interference, and no other Work on the project is available for the men and machinery at that time. If the delay lasts more than one day, the Contractor will be compensated, based on hourly payroll and machinery rental rate by the Owner for the full amount of the actual cost for each day thereafter. The compensation will not be based on the amount of Work that might have been accomplished had the delay not occurred.
- D. If the interference occurs with a water line and the Work is required to be done by the local water company, or if the Contractor requests the assistance of the water company in correcting the interference, the Contractor shall reimburse the water company for all material, labor and equipment costs directly associated with correcting the interference. If the utility company is unable to assist the Contractor, the Contractor shall be fully responsible for doing the Work to the satisfaction of the utility involved.

1.2. WATER AND SANITARY SERVICES

- A. No effort has been made by the Engineer to show existing individual house utility services.
- B. It shall be the Contractor's responsibility to make every effort possible to locate all existing services prior to excavating and every reasonable caution shall be taken to protect and preserve the integrity of these lines.
- C. The Engineer may assist the Contractor in locating services but the responsibility for their location and integrity is solely the Contractor's.
- D. The Contractor shall make no claims against the Owner for services not shown on the Contract Drawings.
- E. If services are interrupted, the Contractor shall immediately make repairs to the service.
- F. The Engineer shall inspect all repairs to broken or damaged services, and approval of the repairs must be obtained by the Contractor from the Engineer prior to covering the Work. The Contractor shall remain responsible for the integrity of broken services even after the Work has been backfilled.
- G. When new service pipes are to be connected to existing services, the Contractor shall be solely responsible for locating the existing service and making the necessary connection. Only pipe adapters may be used for connections. Mortared joints will not be allowed.
- H. When new services are to be provided but not connected to existing services, the Engineer will indicate the location of the end of the new service.

1.3. ELECTRICAL SERVICES

- A. The Contractor shall be responsible for coordination of Work involving electrical utilities. The utilities of concern shall be responsible for making any connections not shown on the Drawings. The Contractor shall be responsible for all conduit, conductors, and electrical connections shown on the Drawings. All electrical work shall be performed according to the National Electrical Code (NEC).

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1. SECTION INCLUDES

Work under this Contract shall be paid as designated below under the appropriate items associated with the Bid Schedule. Payment shall be in accordance with the Lump Sum or Unit Price bid by the Contractor in his bid.

When Lump Sum prices are contained in the Bid Schedule, the Contractor shall provide a detailed breakdown of each Lump Sum cost acceptable to the Engineer, which will be used for estimating partial payment requests.

Contractual costs for work not specifically mentioned under a payment item and which are incidental to the overall conduct of the work shall be included in the individual items. No additional charges shall be made to the OWNER for items not specifically mentioned under individual payment items. Examples of these types of costs include, but are not limited to, the following: bonds, insurances, mobilization, demobilization, permits, licenses, traffic control, dust control, clean up, temporary access, temporary facilities, soil erosion control, temporary drainage, temporary offices, restoration of disturbed areas, temporary utilities, test pits, locating existing utilities, temporary water and sewer utilities, surveying, layout, handling of water, erosion during construction and other items similar to above.

Unit Price Items

- A. Payment – per unit price as stated in the bid.
- B. Measurement - As measured in place by the engineer and in accordance with MaineDOT specification.
- C. Payment shall be full compensation for all equipment, labor, and materials necessary for completion of the work as ordered and directed by the engineer in accordance with the most recent version of Maine DOT Standard Specifications.

PART 2 PRODUCTS Not used.

PART 3 EXECUTION Not Used.

- END OF SECTION -

SECTION 01040

PROJECT COORDINATION

PART 1 GENERAL

1.1. DESCRIPTION

- A. Obtain all permits necessary prior to commencing work.
- B. Make arrangements for temporary storage of material and supplies and for timely delivery to the job site.
- C. Assist the Engineer as required in the review of construction, the testing of materials, and construction survey.
- D. Maintain up-to-date progress records and record drawings.
- E. Maintain the project site in a neat condition.
- F. Coordinate the work of subcontractors, equipment, and material suppliers.
- G. Any damage to existing structures, equipment and property, accepted equipment or structures, and property or work in progress by others, as a result of the Contractor's or his subcontractor's operations shall be made good by the Contractor at no additional cost to the Owner, subject to the provisions of the Construction Agreement.

1.2. COORDINATION WITH OTHERS

- A. Coordinate with all utilities and notify the appropriate owners and DigSafe when excavation is scheduled in areas that may affect existing utilities.
- B. Utility companies will include:
 - Electric: Central Maine Power Company
 - Sewer District: Scarborough Sanitary District
 - Cable/TV: Spectrum
 - Water District: Portland Water District
 - Telephone: Consolidated Communications
- C. Contractor shall bear all costs for utility inspection requirements, temporary facilities, utility repairs and all other requirements.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

- END OF SECTION -

SECTION 01060

STANDARDS AND REGULATIONS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. This Section specifies procedural and administrative requirements for the compliance with governing regulations and imposed codes and standards, including the obtaining of permits, licenses, inspections, releases, and similar documentation, and including payments, statements and similar requirements associated with regulations, codes and standards.

1.2. DEFINITIONS

- A. "Regulations" are defined to include those rules, conventions and agreements within the construction industry which effectively control the performance of the Work, regardless of whether lawfully imposed by governing authority.
- B. Governing Regulation: Refer to the General and Supplementary Conditions for requirements related to the compliance with governing regulations.

1.3. INDUSTRY STANDARDS

- A. General Applicability of Standards: As indicated in the Contract Documents, and except to the extent more explicit or more stringent requirements are written directly into the Contract Documents, applicable standards of the construction industry have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Refer to Contract Documents for resolution of overlapping and conflicting requirements which result from the application of several different industry standards to the same unit of work.
 - 1. Referenced standards (referenced directly in the Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in the industry for applicability to the work.
 - 2. Non-referenced standards are hereby defined, except as otherwise limited in the Contract Documents, to have direct applicability to the Work as recognized in the building construction industry, and will be so enforced for the performance of the Work.

- B. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with the standard in effect as of the date of the Contract Documents.
- C. Copies of Standards: Where needed for proper performance of the Work, obtain directly from publication source.

1.4. GOVERNING REGULATIONS/AUTHORITIES

- A. General: The procedure followed by the Engineer has been to contact governing authorities where necessary to obtain information needed for the purpose of preparing the Contract Documents; recognizing that such information may or may not be of significance in relation to the Contractor's responsibilities for performing the Work. Contact governing authorities directly for necessary information and decisions having a bearing on the performance of the Work.
- B. Trade Union Jurisdiction: It is a procedural requirement that the Contractor maintain and require the prime subcontractors to maintain complete, current information on jurisdictional matters, regulations, actions and pending actions, as applicable to the performance of the Work and that these be discussed at appropriate project meetings at the earliest feasible dates, and that information of particular relevance be recorded along with actions agreed upon. The manner in which the Contract Documents have been organized and subdivided is not intended to be an indication of jurisdictional or trade union agreements. Assign and subcontract the Work, and employ tradesmen and labor, in a manner which will not unduly risk jurisdictional disputes of the kind which could result in conflicts, delays, claims, and losses in the performance of the Work.

1.5. SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgements, and in similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon the performance of the Work.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01092

ABBREVIATIONS AND SYMBOLS

PART 1 GENERAL

1.1 DESCRIPTION

A. The following abbreviations may be used in these specifications:

AASHTO	American Association of State Highway Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
CIPRA	Cast Iron Pipe Research Association
CPI	Clay Pipe Institute
EJCDC	Engineers' Joint Contract Documents Committee
MDOT	Maine Department of Transportation
NEMA	National Electrical Manufacturers Association
NPC	National Plumbing Code
SSPC	Steel Structures Painting Council
UL	Underwriters Laboratories, Inc.

B. Where reference is made to a publication by one of the above-mentioned or other associations, it is understood that the latest revision thereof shall apply unless otherwise designated.

C. In case of conflict, this specification will take precedence over the above references.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

- END OF SECTION -

SECTION 01094

DEFINITIONS AND EXPLANATIONS

PART 1 GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. This Section of the General Requirements defines certain terms used in the Specifications, and explains the language abbreviations thereof, format and certain conventions used in the Specifications and associated Contract Documents.
- B. Limitations of Scope: The definitions and explanations of this Section are not necessarily either complete or exclusive but are general for the Work to the extent such definitions or explanations are not stated more explicitly in another provision of the Contract Documents.

1.2 DEFINITIONS

- A. General Explanation: A substantial amount of the Contract Documents specification language constitutes specific definitions for terms found in the other Contract Documents, including the Drawings, which must be recognized in nature and not completely descriptive of the requirements indicated thereon. Certain terms used repetitiously in the Contract Documents are defined generally in this article.
- B. General Requirements: This refers to the provisions or requirements of the Division 1 Sections. The General Requirements apply to the entire Work of the Contract and, where so indicated, to other elements of work which are included in the project.
- C. Indicated: The term "Indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications and similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate the cross reference, and no limitation of location is intended except as specifically noted.
- D. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted" and "permitted" mean "directed by the Engineer", "requested by the Engineer", etc. However, no such implied meaning will be interpreted to extend the Engineer's responsibility into the Contractor's area of construction supervision.

- E. Refer: Used to indicate that the subject is defined or specified in further detail at another location in the Contract Documents, or elsewhere as indicated. Except as otherwise noted, "refer" does not imply that the Contractor must purchase or subcontract Work in any special manner.
- F. Approve: Where used in conjunction with the Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of the term "approved" will be held to the limitations of the Engineer's responsibilities and duties as specified in the Construction Agreement. In no case will "approval" by the Engineer be interpreted as a release of the Contractor from responsibilities to fulfill the requirements of the Contract Documents.
- G. Project Site: Refers to the space available to the Contractor for the performance of Work, either exclusively or in conjunction with others performing other Work as part of the project. The extent of the project site is shown on the Drawings and may or may not be identical with the description of the land upon which the project is to be built.
- H. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- I. Install: Except as otherwise defined in greater detail, the term "install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimensions, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- J. Provide: Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for the intended use, as applicable in each instance.
- K. Installer: The term "Installer" is the entity (person or firm) engaged by the Contractor or its subcontractor or subcontractor for the performance of a particular unit of Work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) should be an expert in the operations they are engaged to perform.
- L. Testing Laboratories: This term refers to an independent entity engaged to perform specific inspections or tests of the Work, either at the project site or elsewhere and to report and (if required) interpret the results of those inspections or tests.

PART 2 **PRODUCTS**
Not Used.

PART 3 **EXECUTION**
Not Used.

- END OF SECTION -

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.1. RELATED SECTIONS

- A. Section 01010 – Summary of Work

1.2. DESCRIPTION

A. Preconstruction Conference:

1. After the Award of Contract and the Notice to Proceed, the Contractor (project manager and superintendent) shall meet with the Engineer and/or their representative for a Preconstruction Conference.
2. The purpose of this conference is to review the principal features of work and to address questions regarding the contract and work site. The agenda will include:
 - a. Distribute and discuss:
 - (1) List of subcontractors
 - (2) Tentative construction schedules.
 - b. Critical work sequencing.
 - c. Relation and coordination of subcontractors.
 - d. Designation of responsible personnel.
 - e. Processing of field decisions and change orders.
 - f. Submittal of shop drawings, project data and samples.
 - g. Use of premises:
 - (1) Storage areas.
 - (2) Owner requirements.
 - h. Payment and procurement of materials.
 - i. Safety and first-aid procedures.
 - j. Testing of materials.
 - k. Environmental protection.

B. Construction Schedule:

1. Within 10 days after execution of this Contract (or as called for in Section C-700 General Conditions), the Contractor shall submit to the Owner and Engineer, for approval, a progress schedule indicating the starting and completion dates for the various stages of this project. Schedule will include submittals and indicate critical or key submittals.

C. Progress Meetings:

1. Progress meetings will be held on an as-needed basis. The expected frequency of the meetings is once per month. The location, date, and time will be determined by the Engineer. Attendance of Contractor including the project manager and superintendent will be required by notice.
2. The Contractor shall submit to the Engineer at these meetings an updated construction schedule. Any items that could affect the process or cost of the work must be brought to the Engineer's attention for prompt resolution. Attendance of the Contractor's construction supervisor at each meeting is required.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction schedule.
- C. Shop Drawings, project data and samples.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer-accepted form to the Engineer and Owner's Representative.
- B. Provide an electronic copy of each submittal. An electronic copy will be returned to Contractor.
- C. Sequentially number transmittal forms. Resubmittals to have original submittal number with an alphabetic suffix.
- D. Identify Project, Contractor, Subcontractor, or supplier; pertinent drawing and detail number(s), and specification section number, as appropriate.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, and verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project and deliver to Engineer at business address. Coordinate submittals of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the contractor.
- H. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed data.
- I. Provide space for Contractor and Engineer review stamps.

- J. When revised for submission, identify all changes made since previous submittal.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

1.3 CONSTRUCTION SCHEDULE

- A. Submit a realistic time schedule to the Engineer prior to commencing Work that shows the anticipated starting and duration of each separate construction operation.
- B. Keep the Engineer completely informed as the Work progresses to allow the Engineer to observe all phases of construction.

1.4 SHOP DRAWINGS, PROJECT DATA AND SAMPLES

- A. Submit complete Shop Drawings, project data, and samples for any and all products, materials and equipment that the Contractor proposes to use in the completed project. These submittals shall be made to the Engineer in sufficient time and in sufficient detail to allow the Engineer to properly evaluate the submittal and determine its compliance with the Contract Documents.
- B. Provide a minimum of one copy of each submittal. An electronic copy will be returned to Contractor.

PART 2 PRODUCTS Not Used.

PART 3 EXECUTION Not Used.

- END OF SECTION -

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.1 DEFINITIONS

- A. Specific quality control requirements for the Work are indicated throughout the Contract Documents. In particular, quality control provisions for manufactured products are specified in individual work sections, and in other related Sections of Division 1; and are not repeated herein. The requirements of this Section are primarily related to the performance of the Work beyond the furnishing of manufactured products. The term "Quality Control" includes, but is not necessarily limited to, inspection and testing and associated requirements. This Section does not specify or modify the Engineer's duties relating to quality control and Contract enforcement.
 - 1. Quality Control by Owner: This Section does not completely specify that quality control activity (if any) which is indicated to be performed by the Owner, or for the Owner but not by the Contractor. This Section is applicable to quality control work performed by the Contractor or through the Contractor, regardless of whether initially in the Contract Sum, subsequently recognized as an additional Contractor responsibility, or added by Change Order.

1.2 RESPONSIBILITY FOR INSPECTIONS AND TESTS

- A. Residual Owner Responsibility: In Divisions 2, whatever required inspection, testing and similar quality control provisions to be performed by independent agencies (not directly by the Contractor) are not indicated to be the Contractor's responsibility shall be the Owner's responsibility. The Owner will employ and pay for the services of independent testing laboratories to perform those required inspections and tests.
 - 1. The Owner will employ and pay for the services of an independent testing laboratory to perform the required services, which are indicated as the Owner's responsibility (if any).
- B. Contractor's General Responsibility: No failure of test agencies, whether engaged by the Owner or Contractor to perform adequate inspections or tests or to properly analyze or report results, shall relieve the Contractor of responsibility for the fulfillment of the requirements of the Contract Documents. It is recognized that the required inspection and testing program is intended to assist the Contractor, Owner, Engineer, and government authorities in the nominal determination of probable compliances with

requirements for certain crucial elements of work. The program is not intended to limit the Contractor in his regular quality control program, as needed for general assurance of compliance.

1. When requested, submit proof of qualification for agency(s) engaged or to be engaged to perform inspection and testing services.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION

3.1 COORDINATION OF TEST AGENCY WORK

A. Coordination with Owner's Agencies:

1. General: Afford access and reasonable time in the construction sequence for the Owner's inspections and tests to be performed. Cooperate with agencies and provide incidental labor and services needed for the removal and delivery of test samples, and for inspections and taking measurement. Provide patching and restoration services where test samples have been removed, complying with the individual Work Sections of Division 2 through 16.
 - a. Except for specialized laboratory sampling equipment, and except as otherwise indicated, supply and operate the tools and construction equipment needed to obtain test samples from the Work, including cutting devices for sawing, drilling, flame-cutting, coring, and similar operations. Assist the agencies in labeling and packaging of test samples removed from the Work.

3.2 INSTALLATION QUALITY CONTROL

- A. Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in the Contract Documents.
- B. Inspect each item of materials or equipment immediately prior to installation and reject damaged and defective items.
- C. Provide attachment and connection devices and methods for securing Work properly as it is installed, true to line and level, and within recognized industry tolerances if not otherwise indicated. Allow for expansions and building movements. Provide uniform joint widths in exposed Work, organized for best

possible visual effect. Refer questionable visual effect choices to Engineer for final decision.

- D. Recheck measurements and dimensions of the Work as an integral step of starting each installation.
- E. Install Work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion, which will ensure the best possible results for each unit of Work, in coordination with the entire Work. Isolate each unit of Work from non-compatible Work, as required to prevent deterioration.
- F. Coordinate enclosure (closing-in) of Work with required inspections and tests, so as to avoid the necessity of uncovering Work for that purpose.
- G. Adjust, clean, lubricate, restore marred finish, and protect newly installed Work, to ensure that it will remain without damage or deterioration during the remainder of the construction period.

- END OF SECTION -

SECTION 01500

TEMPORARY FACILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. The following list is not meant to be comprehensive or dictate that all facilities listed are required to be provided on site. Contractor shall coordinate with Owner and Engineer as to extent of temporary facilities required for the project.
- B. Temporary Utilities: Electricity, lighting, water, and sanitary facilities.
- C. Temporary Controls: Barriers, protection of the Work, water control, dust control, erosion and sediment control, pollution control, and security.
- D. Construction Facilities: Parking, progress cleaning.
- E. Temporary project office trailer.

1.2 RELATED SECTIONS

- A. Section 01700 – Contract Closeout: Final cleaning.

1.3 TEMPORARY ELECTRICITY

- A. Coordinate, arrange, and provide temporary electric service as needed.
- B. Coordinate with Owner for location and design of temporary service facility.
- C. Contractor to pay all costs associated with temporary service.

1.4 TEMPORARY LIGHTING

- A. Provide and maintain lighting for construction operations as needed to achieve a minimum lighting level of 2 watt/sq. ft. in buildings.

1.5 TEMPORARY WATER SERVICE

- A. Provide, maintain, and pay for suitable quality water service required for construction operations in accordance with Utility specifications.
- B. Exercise measures to conserve water.

1.6 TEMPORARY SANITATION FACILITIES

- A. Provide clean self-contained toilet units in sufficient numbers for use of all persons involved in the Work.

1.7 CONTRACTOR'S OFFICE AND STORAGE FACILITIES

- A. Provide facilities adequate for Contractor's administration of Contract, shelter for personnel, and storage of materials and equipment that must be protected from weather.
- B. Provide a telephone with answering machine for Work related use by Contractor's personnel.

1.8 BARRIERS

- A. Provide protection for plant life designated to remain. Replace damaged plant life.
- B. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

1.9 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment, as necessary.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.10 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- E. Prohibit traffic from landscaped areas.

1.11 PARKING

- A. When site space is not adequate, provide additional off-site parking.

1.12 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove waste materials, debris, and rubbish from site weekly and dispose of off-site.

1.13 REMOVAL OF UTILITIES AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.

1.14 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations. See Section 01562.

1.15 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Provide temporary measures such as berms, silt fences, and drains, to prevent water flow.
- C. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- D. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.16 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.17 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01562

DUST CONTROL

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. The Contractor shall perform dust laying operations during the progress of the Work or even if all Work on the project is suspended. Dust laying shall be generally accomplished by the use of water when necessary to control dust nuisance along the course of the Work. The Contractor shall assume all costs of material and labor contingent with providing dust laying and control.

PART 2 PRODUCTS

2.1. WATER

- A. Water for sprinkling shall be clean, free of salt, oil or other injurious matter.

PART 3 EXECUTION

3.1. APPLICATION

- A. Water shall be applied using appropriate methods and equipment for the situation.
- B. All soil materials shall be removed from paved roadways at the end of each working day.

- END OF SECTION -

SECTION 01570

TRAFFIC CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

The Contractor shall supply all labor, materials, equipment, and incidental items necessary to provide access for emergency vehicles and the general public through the project site during working and non-working hours.

PART 2 PRODUCTS

- A. Provide traffic control and maintenance devices in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways by USDOT and in conformance with MDOT and Town of Scarborough requirements.
- B. Submit a traffic control plan in conformance with MDOT Section 652 for review 10 days prior to any work causing disruption to normal traffic.

PART 3 EXECUTION

3.1 MAINTENANCE OF TRAFFIC

- A. Maintain at least one-way traffic through the work zone while work is in progress. Provide and maintain two-way traffic during non-working hours including nights, weekends, and holidays. Control one-way traffic with uniformed police officers and or certified flaggers as required by Town of Scarborough regulations.
- B. Detours will not be allowed.

3.2 ACCESS REQUIREMENTS

- A. Temporary access shall be provided at all abutting properties when existing entrances are to be blocked. When temporary access is not possible schedule work during off-peak hours and notify, businesses, property owners and emergency services that the access will be blocked at least 48 hours before the access is restricted.

- END OF SECTION -

SECTION 01600

PRODUCTS, MATERIALS, EQUIPMENT

PART 1 GENERAL

1.1. DESCRIPTION OF REQUIREMENTS

- A. Definitions: "Products" is defined to include purchased items for incorporation into the Work, regardless of whether specifically purchased for the project or taken from the Contractor's stock of previously purchased products. Refer to the Submittal sections for a definition of "product data." It is recognized that certain "materials" required for the Work may not be manufactured products (water, air, soil, aggregates, etc.). Beyond that recognition, "materials" is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form units of Work. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.). The definitions in these paragraphs are not intended to negate the meaning of other terms used in the Contract Documents, including "specialties", "systems", "structure", "finishes", "accessories", "furnishings", "special construction", and similar terms which are self-explanatory and have recognized meanings in the construction industry. Refer uncertainties to the Engineer for clarification before proceeding.
- B. Refer to "Part 1 – General" of the individual Sections for "product data" requirements and submittals.

1.2. QUALITY ASSURANCE

- A. Source Limitations: To the greatest extent possible, provide products, materials, and equipment of the same generic kind from a single source.
 - 1. Where products or materials, by nature, are available only from sources which do not individually comprise sufficient quantity for the total project requirement, select products and materials from those individual sources which are more nearly equal in the more important qualities for uniformity, as indicated. Refer instances of uncertainty as to which qualities are most important (visual, structural, resistance to deterioration, compatibility, etc.) to the Engineer for clarification before proceeding.
- B. Compatibility of Options: Where more than one choice is available as options for the Contractor's selection of a product or material, select an option which

is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Total compatibility among options is not assured by the limitations within the Contract Documents but must be provided by the Contractor.

PART 2 PRODUCTS

2.1. GENERAL PRODUCTS, MATERIAL, AND EQUIPMENT COMPLIANCES

- A. General: The compliance requirements for the individual products, materials, and equipment items as indicated in the Contract Documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details and other similar forms of requirements, all of which must be complied with. Also "cash allowances" and similar provisions of the Contract Documents will have a bearing on the selection process. Refer to Section 01094 for further definitions and explanation of terminology related hereto.
- B. Procedures for Selecting Products: The Contractor's options for selecting products are limited by compliance requirements and governing regulations and are not controlled by industry traditions and the procedures experienced by the Contractor on previous construction projects. The singular or combination of required procedures include, but are not necessarily limited to, the following:
 - 1. Single Product/Manufacturer Name: Provide the product indicated, except where the text of the requirement indicates a possible consideration of other products, and advise the Engineer before proceeding, where known that the named product does not comply with the requirements.
 - 2. Two or More Product/Manufacturer Names: Provide one of the named products at the Contractor's option; but exclude products which do not comply with the requirements. Do not provide or offer to provide an unnamed product, except where the text of the requirement indicates a possible consideration of such other (unnamed) products. Where none of the named products comply with the requirements, advise the Engineer before proceeding.
 - a. "Or Equal": Where named products in the specification text are accompanied by the term "or equal," or other language of similar effect, comply with those Contract Document provisions concerning "substitutions" for obtaining the Engineer's approval (or Change Order) to provide an unnamed product.

- b. "Named": Except as otherwise indicated, is defined to mean the manufacturer's name for his product, as recorded in his published product literature, of latest issue as of the Contract Documents. Refer requests to use products of a later (or earlier) model to the Engineer for acceptance before proceeding.
3. Standard, Codes, and Regulations: Where compliance with an imposed standard, code, or regulation is required, the selection from among products which comply with the requirements including those standards, codes, and regulations is the Contractor's option.
4. Performance Requirements: Provide products which comply with the specific performances indicated and which are recommended by the manufacturer (in his published product literature or by individual certification or application) for the application indicated. General performance of a product is implied where product is specified for specific performances.
5. Prescriptive Requirements: Provide products which have been produced in accordance with the prescriptive requirements using the specified ingredients and components, and complying with the specified requirements for mixing, fabricating, curing, finishing, testing, and similar operations in the manufacturing process.
6. Visual Matching: Where the matching of an established sample is required, the final judgment of whether a product proposed by the Contractor matches the sample satisfactorily is the Engineer's judgment. Where no product within the specified cost category is available which matches the sample satisfactorily and complies with the requirements, comply with the Contract Document provisions concerning, "substitutions" and "Change Orders" for the selection of a matching product outside the established cost category or not complying with requirements.
7. Visual Selection: Except as otherwise indicated, where specified product requirements include ". . . as selected from manufacturer's standard colors, patterns, textures . . ." or words of similar effect, the selection of manufacturer and basic product (complying with the requirements) is the Contractor's option, and the subsequent selection of color, pattern, and texture is the Engineer's selection. Where specified product requirements include ". . . as selected from standard colors, patterns, textures available within the industry . . ." or words to that effect, the selection (complying with the requirements and within the established cost category) of the product is the Engineer's selection, including the designation of the manufacturer where necessary to obtain the desired color, pattern, or texture.

2.2. GENERAL PRODUCT REQUIREMENTS

- A. General: Provide products, materials, and equipment which comply with the requirements, which are undamaged and unused at the time of installation and are complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and for the intended use and effect.
 - 1. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
 - 2. Continued Availability: Where additional amounts of a product, by nature of its application, are likely to be needed by the Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to the Owner at such a later date.

PART 3 EXECUTION

3.1. Installation of Products

- A. General: Except as otherwise indicated, particularly in individual work sections of these specifications, comply with the manufacturer's instructions and recommendations for the installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of acceptance.

- END OF SECTION -

SECTION 01630

SUBSTITUTIONS

PART 1 GENERAL

1.1. DESCRIPTION OF REQUIREMENTS

- A. Definitions and Explanations: The requirements for substitutions do not apply to specified Contractor options on products, materials, and construction methods. Revisions to the Contract Documents where requested by the Owner, or Engineer are "changes" not "substitutions." Requested substitutions during the building period, which have been accepted prior to the Contract Date, are included in the Contract Documents and are not subject to the requirements for substitutions as specified herein. The Contractor's determination of and compliance with governing regulations and lawful orders issued by governing authorities do not constitute "substitutions" and do not constitute a basis for Change Orders, except as provided for in the Contract Documents. Otherwise, the Contractor's requests for changes in the products, materials and methods or construction required by the Contract Documents are considered requests for "substitutions," and are subject to the requirements hereof.
- B. "Or-Equal": Where named products, materials or methods are accompanied by "or-equal" or other language of the same effect, the Contractor's requests to use unnamed products, materials, or methods are considered requests for substitutions, and are subject to the requirements hereof.
- C. Refer to Submittals sections for general products, materials, and equipment requirements, which are hereby made applicable to substitutions.

1.2. LIMITATIONS FOR MAKING SUBSTITUTIONS

- A. Conditions: Contractor's request for substitutions will be received and considered when extensive revisions to the Contract Documents are not required, and the changes are in keeping with the general intent of the Contract Documents and when timely, fully documented and properly submitted, and when one or more of the following conditions is satisfied all as judged by the Engineer; otherwise, requests will be returned without action except to record non-compliance with these requirements.
 - 1. Where request is directly related to an "or-equal" clause or other language of the same effect in the Contract Documents.
 - 2. Where required product, material or method cannot be provided within the Contract Time, but not as a result of the Contractor's failure

to pursue the Work promptly or coordinate the various activities properly.

3. Where the required product, material or method cannot be provided in a manner which is compatible with other materials of the Work, or cannot be properly coordinated therewith, or cannot be warranted or guaranteed as required, or cannot be used without adversely affecting the Owner's insurance coverage on the completed Work, or will encounter other substantial non-compliances which are not possible to otherwise overcome, except by making the requested substitution which the Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty/guarantee, non-insurability or other non-compliance as claimed.
 4. Where required product, material or method cannot receive required approval by a governing authority and the requested substitution can be so approved.
 5. Where substantial advantage is offered the Owner, in terms of cost, time or other valuable considerations, after deducting offsetting responsibilities the Owner may be required to bear, including additional compensation to the Engineer for redesign and evaluation services, increased cost of other Work by Owner or separate contractors, and similar considerations.
- B. Work Related Submittals: The Contractor's submittal of, and the Engineer's acceptance of, Shop Drawings, product data or samples which indicate Work not complying with the requirements of the Contract Documents, does not constitute an acceptable and valid request for, nor approval of, a substitution.

1.3. SUBMITTALS

- A. Requests for Substitutions: Submit 6 copies of requests for substitutions fully identified for product, material or method being replaced by the substitution, including related specification section and drawing number(s) and fully documented to show compliance with the requirements for substitution.
- B. Change Order Form: Submit requests for substitutions which propose a change in either the Contract sum or Contract Time, in the form and by the procedures required for Change Order proposals.
- C. Action by Engineer:
 1. General: Within one week of receipt of Contractor's request for substitution, the Engineer will request whatever additional information or documentation may be needed for his evaluation of the

request. Within two weeks of receipt of request or within one week of receipt of requested additional information or documentation (whichever is later), the Engineer will notify the Contractor of either his acceptance or his rejection of the proposed substitution.

- a. Rejection will include statement of the reasons for rejection (non-compliance with the requirements for requested substitutions or other reasons as detailed).
- b. Acceptance will be in the form of a Change Order, when required by the Contract Documents, or in the form of written authorization to use the substituted product or material.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Substantial Completion Procedures.
- B. Final Cleaning.
- C. Final Inspection.
- D. Closeout Procedures.
- E. Post-Construction Inspection.

1.2. SUBSTANTIAL COMPLETION

- A. Contractor
 - 1. Submit written certification to the Engineer that Project or designated portion of Project is substantially completed.
 - 2. Submit list of items to be completed or corrected.
- B. The Engineer will make an inspection after receipt of the Contractor's certification together with the Owner's representative.
- C. If it appears to the Engineer that work is substantially complete:
 - 1. The Engineer may request of and the Contractor shall prepare and submit to the Engineer, a list of items to be completed or corrected as determined by the inspection.
 - 2. If the Engineer then considers the Work to be substantially complete, the Engineer may, with the Owner's approval, issue a Certificate of Substantial Completion with appropriate conditions accompanied by a list of the items to be completed and corrected, as verified and amended by the Engineer. Omission of any item from the list shall not relieve the Contractor from responsibility to complete all the Work in accordance with the Contract.
 - 3. The Owner occupancy of Project or designated portion of Project:

- a. The Contractor shall perform final cleaning in accordance with the Agreement.
 - b. The Owner may use all or part of the Work within the time designated in the Certificate of Substantial Completion upon notice to the insurance company or companies as provided in the Agreement.
- 4. The Contractor shall complete all the Work within the time designated in the Certificate.
- D. Should the Engineer consider that Work is not substantially complete:
 - 1. Contractor will be notified in writing stating reasons.
 - 2. The Contractor shall complete Work and send second written notice to the Engineer certifying that Project or designated portion of Project is substantially complete.
- E. Warranties: Guarantee and warranty periods begin with the date of substantial completion.

1.3. FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean debris from drainage systems.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4. FINAL INSPECTION

- A. Submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been completed in accordance with Contract Documents.
 - 3. Equipment and systems have been tested in presence of the Owner's representative and are operational.
 - 4. Project is completed and ready for final inspection.

- B. The Engineer will make a final inspection within a reasonable time after receipt of certification.
- C. Should the Engineer consider that Work is not complete in accordance with requirements of Contract Documents, he shall request the Contractor to make project closeout submittals.
- D. Should the Engineer consider that Work is not complete:
 - 1. He shall notify the Contractor, in writing, stating reasons.
 - 2. The Contractor shall take immediate steps to remedy the stated deficiencies and send second written notice to the Engineer certifying that Work is complete.
 - 3. The Engineer will reinspect Work.

1.5. REINSPECTION COSTS

- A. Should the Engineer be required to perform second inspections because of failure of Work to comply with original certifications of the Contractor, the Owner will compensate the Engineer for additional services as stated in the General Conditions and charge the Contractor for such fees at the Engineer's currently established billing rate.

1.6. CLOSEOUT SUBMITTALS

- A. Project Record Documents required by these Specifications.
- B. Operation and Maintenance Data: (if applicable).
- C. Guarantees and Bonds required by these Specifications
 - 1. See Construction Agreement and specific equipment or material specification
- D. See Construction Agreement and specific equipment or material specifications.
- E. Spare parts and Maintenance Materials: (if applicable).
- F. Easement Release.
- G. Deliver evidence of compliance with requirements of governing authorities.
- H. As-built drawings.

- I. Releases of Liens.

1.7. FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit final statement of accounting to the Engineer.
- B. Statement shall reflect all uncompleted adjustments:
 - 1. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Cash allowances.
 - c. Unit prices.
 - d. Other adjustments.
 - e. Deductions for uncorrected work.
 - f. Penalties and bonuses.
 - g. Deductions for liquidated damages.
 - 2. Unadjusted sum remaining due.

1.8. FINAL APPLICATION FOR PAYMENT

- A. Submit final application in accordance with requirements of the Construction Agreement.

1.9. FINAL CERTIFICATE FOR PAYMENT

- A. The Engineer will issue Final Certificate (Notice of Acceptability, C-626) in accordance with provisions of the Construction Agreement.
- B. Should final completion be materially delayed through no fault of the Contractor, the Engineer may issue a Final Certificate for Payment, in accordance with provisions of the Construction Agreement and existing laws.

1.10. POST-CONSTRUCTION INSPECTION

- A. Prior to expiration of one year from Date of Substantial Completion or Final Acceptance, the Engineer may make visual inspection of Project in company with the Owner and Contractor to determine whether correction of Work is required, in accordance with provisions of General Conditions.
- B. For guarantees beyond one year, the Engineer will make inspections at request of the Owner, after notification to the Contractor.

- C. The Owner will promptly notify the Contractor, in writing, of any observed deficiencies.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01701

SURFACE RESTORATION

PART 1 GENERAL

1.1. SECTION INCLUDES

1.2. RELATED SECTIONS

- A. Section 02200: Earthwork
- B. Section 02510: Asphalt Concrete Paving
- C. Section 02900: Landscaping

PART 2 PRODUCTS

2.1. PAVEMENT - DIVISION 2

- A. Material shall conform with Section 02510.

2.2. GRAVEL - DIVISION 2

- A. Material shall conform with Section 02200.

2.3. LOAM AND SEED - DIVISION 2

- A. Material shall conform with Section 02900.

PART 3 EXECUTION

3.1 Trenches

- A. Trenches in paved roadway, paved driveway, gravel areas, and sidewalk areas shall be restored in accordance with the specific cross-section detail in the Contract Drawings.
- B. If the existing conditions of paved areas exceed the above minimums, restoration shall duplicate the pre-existing conditions.
- C. Restoration outside of graveled or paved areas shall consist of 4 inches of loam and seeded per these specifications. Lawn areas shall receive parkway mixture. All other areas shall receive roadway mixture.

- END OF SECTION -

SECTION 01710

CLEAN UP

PART 1 – GENERAL

1.1. DESCRIPTION

- A. Maintain premises and private properties free from accumulations of waste, debris, and rubbish, caused by operations.
- B. At completion of work, remove waste materials, rubbish, tools, equipment, machinery, surplus materials, and clean all sight-exposed surfaces.

1.2. RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01040 – Project Coordination
- C. Section 01700 – Project Closeout

1.3. SAFETY REQUIREMENTS

- A. Standards: Maintain project in accordance with following safety and insurance standards:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- B. Hazards Control:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.

- C. Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws.
 - 1. Do not burn or bury rubbish or waste materials on project site unless permits are obtained from agencies having jurisdiction.
 - 2. Do not dispose of wastes, silts, eroded materials, or soils into streams or waterways.

PART 2 – PRODUCTS

2.1. MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 – EXECUTION

3.1. DURING CONSTRUCTION

- A. Execute cleaning to ensure that buildings, grounds, and private properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of work, clean site and private properties, and dispose of waste material, debris, and rubbish.
- D. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off the Owner's property.
- E. Handle materials in a controlled manner as few handlings as possible.

3.2. FINAL CLEANING

- A. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- B. Maintain cleaning until project is substantially complete.

- END OF SECTION -

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1. DESCRIPTION OF WORK

- A. Keep accurate record documents for all additions, substitution of material, variations in work and any other revisions to the Contract Documents.

1.2. RELATED SECTIONS

- A. Section 01040 – Project Coordination
- B. Section 01340 – Submittals
- C. Section 01700 – Project Closeout

1.3. MAINTENANCE OF DOCUMENTS

- A. Maintain at job site, one copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Reviewed Shop Drawings.
 - 5. Health and Safety Plan.
 - 6. Change Orders.
 - 7. Other Modifications to Contract.
 - 8. Certificates of Compliance.
 - 9. As-built drawings in progress throughout the project.
 - 10. Minutes of construction progress meetings.
 - 11. Contractor's daily progress or inspection reports.
 - 12. Testing results for completed and accepted work.

- 13. Other documentation as required by agencies having jurisdiction.
- B. Store documents in a dry safe place, apart from documents used for construction.
- C. Do not use record documents for construction purposes.
- D. Make documents available at all times for inspection by the Owner's Representative, Engineer, or their Designee.

1.4. RECORDING

- A. Keep record documents current.
- B. Do not permanently conceal any work until required information has been recorded, including testing and acceptance.
- C. Contract Drawing: Legibly mark to record actual construction as applicable:
 - 1. Depths of various elements of foundation in relation to survey datum.
 - 2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Change Orders, Work Orders, and Field Order.
 - 5. Details not on original Contract Drawings.
- D. Specifications and Addenda: Legibly mark up each section of record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Orders, Work Orders, and Field Orders.
 - 3. Other matters not originally specified.
- E. Shop Drawings: Maintain as record documents; legibly annotate drawings to record changes made after review.

1.5. SUBMITTAL

- A. Prior to Final Inspection, deliver record documents to the Owner's Representative and Engineer.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each recorded document.
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of Contractor, or his authorized representative.

1.6. FINAL AS-BUILT

- A. The final as-built of the project shall be submitted to the engineer for review prior to acceptance.
- B. The as-built drawing shall contain but not be limited to the following items;
 - 1. Project extents;
 - 2. Project benchmarks;
 - 3. Pavement and sidewalk extents;
 - 4. Locations of above ground utilities;
 - 5. Locations of below ground utilities with elevation information including, inverts, depth of bury, pipe material and size, slope (if gravity drained);
 - 6. Notes with descriptions of deviations from approved plans

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 01740

WARRANTIES AND BONDS

PART 1 – GENERAL

1.1. SECTION INCLUDES

- A. Preparation and submittal
- B. Time and schedule of submittals
- C. Warranty Period.

1.2. RELATED SECTIONS

- A. Section 01700 – Contract Closeout: Contract closeout procedures.
- B. Individual Specifications Sections: Warranties required for specific products or Work.

1.3. FORM OF SUBMITTALS

- A. Bind in commercial quality, 8-1/2 x 11 inch three-ring side binders with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible principal.
- C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification Section in which specified, and the name of the product or work item.
- D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

1.4. PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item or work. Except for items put into use with

Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.

- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal

1.5. TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
- B. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
- C. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

1.6. WARRANTY PERIOD

- A. Warranty period shall be one (1) year from the date of Substantial Completion or earlier date so provided in the specifications or by written amendment unless otherwise noted in Sections of these Contract Documents dealing with individual pieces of equipment.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

- END OF SECTION -

SECTION 02110

CLEARING AND GRUBBING

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Clearing, selective clearing and grubbing.
- B. Disposal of materials.

1.2. QUALITY ASSURANCE

- A. Perform all Work under this section in accordance with all applicable State and local laws, ordinances, and code requirements.

PART 2 PRODUCTS

2.1. MATERIALS

- A. Provide all materials, equipment and labor necessary to accomplish the Work.
- B. All timber and wood shall become the property of the Contractor and removed from site unless specified otherwise.

PART 3 EXECUTION

3.1. PREPARATION

- A. Work Limits
 - 1. Clearly identify and mark limits for clearing.
 - 2. Mark and guard all boundary line pins, bolts, monuments, fences and other markers against damage or displacement.
- B. Trees to Remain
 - 1. Prominently flag or otherwise mark trees designated to be left standing. Protect trees to remain in accordance with local regulations.

3.2. CLEARING

- A. Remove all trees, brush, stumps, bushes, shrubs, plants and other vegetative matter and non-vegetative debris within the limits shown on Drawings.

- B. Care shall be taken to avoid damage to or encroachment on abutting property. Should such damage occur, the Contractor shall be responsible for any and all necessary restitution.
- C. Excess material to be handled as described in paragraph 2.1 of this section.

3.3. SELECTIVE CLEARING

- A. Remove all dead or diseased trees, brush, stumps, bushes, shrubs, plants and other vegetative matter and non-vegetative debris within the limits shown on the Drawings.
- B. Remove all trees, bushes, shrubs, plants and other vegetative matter as designated by the Engineer.
- C. Remaining trees and bushes shall be pruned to remove all dead, diseased or injured wood or branches designated by the Engineer.
- D. Excess material to be handled as described in paragraph 2.1 of this section.

3.4. REMOVAL OF SINGLE TREES

- A. Remove and dispose of individual trees specified on Drawings.
- B. Stumps shall be removed, and stump holes backfilled.

3.5. GRUBBING

- A. Grubbing shall be performed in all areas to be excavated, under all paved areas, and in areas designated on Drawings.
- B. Grubbing shall not be performed in areas designated to remain in an undisturbed state or around trees to be left standing.
- C. Contractor shall install all erosion and sedimentation control devices in areas adjacent to the designated grubbing area prior to commencing grubbing activities.
- D. Grub out all stumps, roots and vegetation to a minimum depth of one foot below existing grade or as needed to provide a reasonably clean mineral soil working surface.
- E. Grubbing shall be performed using ground rakes, toothed blades or similar equipment to remove wood growth with a minimum loss of mineral soils.

3.6. DISPOSAL

- A. Materials to be disposed of shall be disposed of offsite and only in accordance with State and local laws, ordinances, and code requirements.

- END OF SECTION -

SECTION 02140

DEWATERING

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Dewatering requirements and discharge standards.

1.2. RELATED SECTIONS

- A. Section 02270: Erosion Control.

1.3. QUALITY CONTROL

- A. Control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement, subsidence, erosion, and pollution.
- B. Provide adequate dewatering operations to ensure the integrity of the finished product.
- C. Conduct the dewatering operations in a manner which protects adjacent structures, facilities, property, waterways and waterbodies. The cost of repairing any damage caused by dewatering shall be the responsibility of the Contractor.

PART 2 PRODUCTS

2.1. EQUIPMENT

- A. Before operations begin, have available on this site of work, sufficient pumping equipment and/or other machinery to assure that the operation of the dewatering system can be maintained including erosion control means and methods of limiting erosion and sedimentation in accordance with the most recent Maine Erosion and Sedimentation Control Best Management Practices Manual and Field Guide for Contractors.

PART 3 EXECUTION

3.1. METHODS

- A. Dewatering shall be done by such method as Contractor may elect.

- B. Dewatering sufficient to maintain the ground water level, at or below the bottom of the excavation, shall be accomplished prior to foundation preparation for structures or bedding for pipes.
- C. Dewatering shall be considered as incidental to the construction and all costs thereof shall be included in the contract prices on the bid form.
- D. Dispose of water so as not to cause injury to public or private property or to cause a nuisance or menace to the public. Water shall be pumped into dirt bags or sediment traps prior to discharge to existing drainage courses.
- E. Construction of temporary facilities and/or siltation basins and related piping to dispose of water shall be incidental to the construction.

- END OF SECTION -

SECTION 02150

SHORING

PART 1 GENERAL

1.1. Section Includes

- A. Installation of sheeting and bracing to support sides of excavations.

PART 2 PRODUCTS

2.1. WOOD

- A. Wood sheeting and bracing shall be made of good quality wood of adequate dimension and design to provide a safe support system based on the type of materials available for use.

2.2. STEEL

- A. Steel sheet piling, if required, shall be interlocking type of section best adapted to design requirements.

2.3. OTHER

- A. Other material may consist of preassembled steel "boxes" or hydraulic shoring systems specifically designed for the type of shoring required.

PART 3 EXECUTION

3.1. INSTALLATION

- A. Contractor shall provide site security to ensure public safety is maintained and shored area can not be accessed by members of the public in accordance with State and Federal Requirements.
- B. Where required, install sheeting and bracing in accordance with accepted practices and in compliance with State and Federal safety requirements. Sheeting and bracing shall be installed by skilled and experienced workmen with adequate equipment to produce a safe structure.
- C. Care shall be taken to prevent voids outside of the sheeting but if voids are formed, they shall be immediately filled and rammed.
- D. Engineer may direct in writing to leave sheeting and bracing in place and embedded in the backfill during the progress of the Work for the purpose of

preventing injury to structures, utilities, or property, whether public or private. The Engineer may direct that timber used for sheeting and bracing be cut off at any specified elevation.

- E. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction of other structures, utilities, or property. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as may be directed.
- F. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise growing out of failure on the part of the Contractor to leave sufficient sheeting and bracing in place to prevent any caving or moving of the ground.
- G. No wood sheeting is to be completely withdrawn if driven below mid-diameter of any pipe, and under no circumstances shall any wood sheeting be cut off at a level lower than one foot above the top of any pipe.

- END OF SECTION -

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.1. DESCRIPTION OF WORK

- A. Preparation of subgrade. Excavation, filling, and grading.

1.2. RELATED SECTIONS

- A. **Quality Control:** Section 01400
- B. **Erosion Control:** Section 02270
- C. **Landscaping:** Section 02900

1.3. DEFINITIONS

- A. **Earth:** All excavated materials not classified as rock. Earth includes pavements, obstructions visible on the ground surface, underground structures and utilities, boulders, and rock fragments less than two cubic yards in volume.
- B. **Rock:** Material which is geologically classified as intact, un-transported rock and requires systematic drilling and blasting, ripping, broaching, or jack hammering.
- C. **Rock Excavation:** The removal of hard, intact rock which cannot be excavated with a tractor-mounted power excavator equivalent to Caterpillar Model 315, rated at not less than 90 HP flywheel power and 30,000-pound drawbar pull.
- D. **Payline:** The design line for rock excavation and measurement and payment limit specified or indicated on the Drawings. Rock may not protrude within the limits of the payline. The Contractor shall make every reasonable effort, by exercising careful control of drilling to minimize overbreak beyond or outside of the payline. However, nothing in these specifications shall be constructed as a warranty that geologic conditions are such that specified guidelines will achieve the desired design excavation limits. It is assumed that the Constructor has provided, in bid process, for the costs associated with non-paid excavation (overbreak) and replacement materials outside of the payline.

Paylines are limited to the following:

1. Two feet outside of concrete Work for which forms are required. One foot outside of perimeter of footings.
2. One and a half feet beyond the outside dimension of all underground utilities.

Neat outside dimensions of concrete Work where no forms are required. When special cases occur, paylines will be as shown on the plans.

- E. **Excavation Grades or Elevations:** The design vertical rods indicated on the Drawings to which rock shall be excavated. The actual vertical limits of rock excavation will be determined by the amount of overbreak below the design grades after removal of overbreak and cleaning of the resulting rock surface as specified.
- F. **Standard Optimum Moisture Content:** That moisture content resulting in a maximum dry unit weight when subjected to Standard Proctor Compaction Test (ASTM D-698).
1. Maximum dry unit weight, lbs./ft.³ obtained by this procedure is the standard Proctor maximum dry density.
- G. **Modified Optimum Moisture Content:** That moisture content resulting in a maximum dry unit weight when subjected to Modified Proctor Compaction Test (ASTM D-1557).
1. Maximum dry unit weight, lbs./ft.³ obtained by this procedure is the modified Proctor maximum dry density.

1.4. SUBMITTALS

- A. **Samples:** Provide representative samples of all proposed fill materials to the Owner's Representative for testing at least three weeks prior to placement. Acceptance or rejection of fill materials will be based on the results of laboratory testing. Written reports summarizing the results of all laboratory testing will be provided to the Owner and Contractor.

1.5. QUALITY ASSURANCE

- A. **Codes and standards:** Perform excavation Work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. **Testing and inspection services:** The Owner will engage soil testing and inspection services for quality assurance testing during earthwork operations

in accordance with Section 01400. Contractor shall assist Owner in completing testing, and correct any materials that fail to comply with these specifications at Contractor's cost.

1.6. JOB CONDITIONS

- A. **Site information:** Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn therefrom by the Contractor. Data are made available for the convenience of the Contractor.

Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.

B. **Existing utilities:**

1. Locate existing underground utilities in the areas of Work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the Utility Owner immediately for directions. Cooperate with the Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of the Utility Owner.
3. Do not interrupt existing utilities serving facilities occupied and used by the Owner or others, except when permitted in writing by the Owner and then only after acceptable temporary utility services have been provided.
4. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

- C. **Use of explosives:** Do not bring explosives onto site or use in Work without prior written permission from authorities having jurisdiction. The Contractor is solely responsible for handling, storage, and use of explosive materials when their use is permitted. Contractor is required to secure appropriate licenses, certifications and insurance necessary for the use of explosives on the project site. Contractor shall take all precautions and comply with applicable regulations to insure all public and private property from damage as a result of blasting operations.

D. Protection of persons and property:

1. Barricade open excavations occurring as part of this Work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction.
2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2 PRODUCTS

2.0. SOIL MATERIALS

2.1. ROADWAYS AND PARKING AREAS

- A. **Aggregate Subbase Material:** Aggregate subbase shall be gravel consisting of hard, durable particles which are free from vegetable matter, lumps, or balls of clay, and other deleterious substances. Gravel subbase shall not contain particles of rock which will not pass the 6-in. Square mesh sieve. The gradation of the portion which will pass a 3-inch sieve shall meet the grading requirements of the following table:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieve</u>
1/4"	25-70
#40	0-30
#200	0-7

(M.D.O.T. 703.06 Type D)

- B. **Aggregate Base Material:** Shall be crushed. Gravel consisting of hard durable particles which are free from vegetable matter, lumps or balls of clay, and other deleterious substances. Gravel base shall not contain particles of rock which will not pass the 2-inch square mesh sieve. The gradation of the base materials shall meet the grading requirements of the following table:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieve</u>
1/2"	45-70
1/4- inch	35-55
#40	0-20
#200	0-5

(M.D.O.T. 703.06 Type A)

2.2. STRUCTURES

- A. **Structural Backfill:** Backfill placed within 5 ft of structures and under structural slabs shall consist of a well graded sand or gravel free of vegetable matter, lumps or balls of clay and other deleterious substances. The gradation shall meet the grading requirements of the following table:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieve</u>
6-inch	100
1/4- inch	25-70
#40	20-45
#200	0-5

Structural backfill shall not contain particles of rock which will not pass the 3-inch square mesh sieve.

2.3. PIPE BEDDING MATERIAL

- A. **Granular Pipe Bedding Material:** Shall be clean and free of organic matter, silt, or clay lumps, and deleterious materials. The material shall meet the following gradation requirement:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieve</u>
1/2"	100
#4	95-100
#40	20-45
#200	0-5

- B. **Stone Pipe Bedding Material:** Shall be crushed stone free of organic matter, silt, or clay lumps, and deleterious material. The material shall meet the following gradation requirements.

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieve</u>
1"	95-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

2.4. SAND ELECTRICAL/TELEPHONE/FIRE ALARM UTILITY TRENCHES

Clean sand, free from organic matter, graded to meet the following criteria for the appropriate designation.

Sieve Designation	% by Weight Passing Square Mesh Sieve
1"	95-100
½"	75-100
#4	50-85
#10	20-50
#60	0-15
#200	0-5

2.5. UNDERDRAIN BACKFILL MATERIAL

A. Crushed stone Type C for underdrain shall conform to the following table.

Sieve Designation	% by Weight Passing Square Mesh Sieve
1"	100
¾ "	90-100
3/8"	0-75
#4	0-25
#10	0-5

B. Type B Underdrain backfill for shall conform to the following table.

Sieve Designation	% by Weight Passing Square Mesh Sieve
1"	95-100
1/2 "	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

2.6. MISCELLANEOUS MATERIALS

1. **Common Borrow:** Shall be earth, suitable for embankments construction. It shall be free of frozen material, perishable rubbish, peat, organic matter, large rock fragments, or other unsuitable material. AASHTO M145 Classifications A-1 through A-5 may be used. Use of other materials as common borrow is at the discretion of the Owner's Representative and only in approved areas.
2. **Gravel Borrow:** Shall consist of uniformly graded granular material having no rocks with a maxim in dimension of over 6 in. and that portion passing a 3-in. Square mesh sieve shall contain not more than 70 percent passing a ¼ in. mesh sieve and not mere than 10 percent passing a No. 200 mesh sieve.

3. **Rock Borrow:** Shall consist of hard durable rock broken to various sizes that will form a compact embankment with a minimum of voids. The maximum size for any rock shall be 3 feet in its greatest dimension.
4. **Topsoil (Loam):** Shall be in accordance with Section 02900, Landscaping.

2.7. ON-SITE MATERIAL

- A. Material on the site is the property of the Owner and, if suitable, shall be incorporated in the contract work. The Owner's Representative shall classify the material under Article 2.0 headings. Any sample testing needed for this classification will be performed by an approved laboratory at the Owner's expense.
- B. Material not incorporated in the work because it is unsuitable will be hauled away and disposed of at the Contractor's expense.
 1. Material designated to be wasted by the Owner's Representative will be disposed of the Contractor.
 2. Material designated to be saved by the Owner's Representative will be stockpiled at the location shown on the drawings or designated by the Owner's Representative.
 3. Unsuitable material shall consist of grubblings, or other materials which contain rock of size exceeding specifications, organic material, or other material of a deleterious nature as deemed by the Owner's Representative.

PART 3 EXECUTION

3.1. INSPECTION

Examine the areas and condition under which excavating, filling, and grading are to be performed and notify the Owner's Representative, in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

3.2. EXCAVATION

Excavation consists of removal and disposal of material encountered when establishing required grade elevations. Unless otherwise specified, all excavation shall be unclassified and shall include any and all material encountered.

- A. **Excavation for Structures:** Conform to elevations and dimensions shown within a vertical tolerance of one-half (1/2) in. and extending a sufficient horizontal distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

Excavation for footings and foundations shall extend to the depth necessary to remove all fill material above the native soils. When the footing and foundation grades extend into native soils, the native soils shall be excavated to the foundation grades specified on the plans. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms of required lines and grades to leave solid base to receive concrete.

Rock Shattered due to drilling or blasting operations shall be removed. Excess rock excavation shall be filled with Class A or Class B concrete.

- B. **Excavation of Pavements:** Conform to subgrade elevations and dimension shown, within a vertical tolerance of one (1) in.
- C. **Excavation for Trenches:** Conform to elevations and dimensions within a vertical tolerance of one (1) in. Excavate to the uniform width shown or required for the particular item to be installed. Provide adequate working space for compacting equipment.

Excavate trenches to the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevations and provide pipe bedding as specified in paragraph 2.3.

Where rock is encountered, carry the excavation six (6) in. Below the require elevation and backfill with a 6" layer of crushed stone or gravel prior to installing pipe. Grade bottoms of trenches as indicated, nothing under pipe joints to provide solid bearing for the entire body of the pipe.

Do not backfill trenched until authorized by the Owner's Representative. Use care in backfilling to avoid damage or displacement of pipe systems.

- D. **Site Excavation:** Conform to elevations and dimension shown within a vertical tolerance of one (1) in. During the excavation to base grade, excavating equipment and trucks are to be kept off the sub grade to minimize disturbance of the subgrade. Excavate to a depth to provide for any subsequent loam, sod, or other specified surface material.
- E. **Excavation of Unsuitable Material:** Shall consist of the excavation and removal of all fill materials including loose, encompassed soil material, buried waste, buried vegetation and other organic or inorganic debris shown on the

plans, encountered during the prosecution of the work, or as directed by the owner's Representative. The excavation shall extend to the limits and depth necessary to remove all fill and unsuitable native material.

- F. **Muck Excavation:** Muck excavation shall consist of the excavation and disposal of saturated and unsaturated mixtures, soils, and organic matter not suitable for foundation or embankment material, regardless of moisture content.

3.3. STABILITY OF EXCAVATIONS

Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavation in a safe condition until completion of backfilling.

3.4. MATERIAL STORAGE

- A. Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade, and shape stockpiles for proper drainage. Seed and mulch stockpile areas as necessary to prevent erosion.
- B. Locate and retain soil materials and waste materials as herein specified.
- C. Dispose of excess soil material and waste materials as herein specified.

3.5. COLD WEATHER PROTECTION

Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F.

3.6. CLOSING ABANDONED UNDERGROUND UTILITIES

- A. Close open ends of abandoned underground utilities, indicated to remain, permanently with closures sufficiently strong to withstand pressures which may result after closing.
- B. Close open ends of metallic conduit and pipe with threaded galvanized metal caps or plastic plugs. Or other suitable method for the type of material and size of pipe. Do not use wood plugs.
- C. Close open ends of plastic PVC pipe abandoned in-place with a permanent plastic PVC plug. Pipe end is to be backfilled with bedding sand.
- D. Close open ends of concrete and masonry utilities with not less than 8" thick brick masonry bulkheads, constructed to completely fill the opening.

- E. Wet brick before laying. Lay brick in mortar so as to form a fill bed with ends and side joints in one operation. Joints shall be more than three-eighths (3/8) in. wide. Protect fresh masonry from freezing or from rapid drying, as necessary, and maintain protection until mortar has set.
- F. Perimeter drain structures shall be abandoned in-place in such a manner that the existing drain continues to operate. Manholes shall be abandoned by removing upper sections, connecting the pipe ends within the remaining manhole sections, and backfilling the inside of the manholes, with ¾" crushed stone. Perimeter drain cleanouts shall be cut and capped below 6" below grade.

3.7. COMPACTION

- A. **General:** Control soil compaction during construction providing minimum percentage of density specified for each area classification.
- B. **Percentage of Maximum Density Requirements:** Compact soil to not less than the following percentages of maximum dry density (determined in accordance with ASTM D698) or as necessary to obtain required hydraulic conductivity.
 - 1. **Footings and Foundations:**
 - a. **Footings founded on native sands:** Compact subgrade with a least six complete passes of an approved vibratory plate.
 - b. Compact each layer of base material to at least 95% of maximum dry density.
 - 2. **Structural Slabs:** Compact each layer of backfill material to at least 95 percent of maximum dry density.
 - 3. **Adjacent to Structures:** Compact each layer backfill or fill material to at least 92 percent of maximum dry density.
 - 4. **Lawn or Unpaved Area:** Compact each layer backfill or fill material to at least 90% of maximum dry density.
 - 5. **Pavements:** Compact subgrade and each layer of gravel borrow, subbase material, and base material to at least 95% of maximum dry density.
 - 6. **Pipe Trenches:** Compact bedding material and each layer of backfill to six (6) inches over pipe to at least 90 percent maximum dry density.

7. **Dikes and Embankments:** Compact all embankments in maximum lift thicknesses of 12 inches to at least 90 percent of its maximum dry density.
- C. **Moisture Control:** Where subgrade or a layer of solid material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of solid material, in proper quantities to prevent free water appearing on surface during or subsequent to compaction operations.

Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory level.

3.8. BACKFILL AND FILL

- A. **General:** Place acceptable soils material in layers to required subgrade elevations, for each area classification listed below.
 1. In excavations, use satisfactory excavated or borrow material.
 2. Under grassed areas, use satisfactorily excavated or borrowed material.
 3. In pipe trenches, use material specified in typical trench section.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 1. Acceptance by Owner's Representative of construction below finish grade including, where applicable, damp-proofing, waterproofing, and perimeter insulation.
 2. Inspection, testing, approval, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Temporary sheet piling driven below bottom structures shall be removed in manner to prevent settlement of the structure or utilities, or cut off and left in place if required.

5. Removal of trash and debris.
 6. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
 7. As-built survey construction (as necessary).
- C. **Placement and Compaction:** Place backfill and fill materials in layers not more than 12" in loose depth for material compacted by heavy compaction equipment, and not more than 6" in loose depth for material compacted by hand-operated tampers.

Before compactions, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structures to approximately same elevation in each lift.

- D. **Ground Surface Preparation:** Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, scarify, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

3.9. GRADING

- A. **General:** Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. **Compaction:** After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.10. BASE AND SUBBASE COURSES

- A. **General:** This work consists of placing aggregate base and subbase material, in layers of specified thickness, over subgrade surface and geotextile fabric. (See Section 02510 for paving specifications.)

- B. **Grade Control:** During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. **Placing:** Place subbase and base course material on prepared surfaces in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting material during placement operations.

When a compacted subbase course is shown to be 6" thick or less, place material in a single layer. When shown to be more than 6" thick, place material in equal layers, except no single layer more than 12" or less than 3" in thickness when compacted.

3.11. TOPSOIL

- A. **General:** This work consists of placing topsoil of the specified thickness on prepared subgrade in all areas disturbed by construction and not otherwise surfaced or covered by structures and shall be in accordance with Section 02900-Landscaping.

3.12. MAINTENANCE

- A. **Protection of Graded Areas:** Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades in settled, eroded, and rutted area to specified tolerances, and at no additional cost to the Owner.
- C. **Reconditioning Compacted Areas:** Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction, at no additional cost to the Owner.

3.13. FIELD QUALITY CONTROL

- A. **Quality control testing during construction:**
 - 1. Allow testing service to inspect and approve subgrades and fill layers before further construction Work is performed.
 - 2. Section 01400 outlines quality control testing schedule.
 - 3. Keep copies of all test results on-site for inspection by Engineer.

4. Materials determined to fail test shall, at the Contractor's expense, be reworked until approved test results are obtained.
5. Reworking may include removal, rehandling, reconditioning, adding moisture, rerolling or combinations of such measures.
6. Materials represented by samples having an in-place moisture content less than the required optimum condition will be rejected.

3.14. DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. **Removal from Owner's Property:** Remove waste materials, including any acceptable excavated material, trash and debris, and dispose of it off the Owner's property in conformance with federal, state and local requirements.

- END OF SECTION -

SECTION 02215

ROCK REMOVAL

PART 1 GENERAL

1.1. SUMMARY

- A. Section includes removal of rock during excavation and explosive to assist rock removal.
 - 1. Explosives shall not be used without express written permission from the Owner.
 - 2. It is not expected that the use of explosives will be required for this project.
- B. Related Sections:
 - 3. Earthwork: Section 02200
 - 4. Storm Drain and Culverts: Section 02610

1.2. REFERENCES

- A. NFPA 495 (National Fire Protection Association) Code for Manufacture, Transportation, Storage, and Use of Explosive Materials.

1.3. DEFINITIONS

- A. Site Rock: Solid mineral material with volume in excess of 2 cu yd or solid material that cannot be removed with $\frac{3}{4}$ cu yd. capacity excavator without drilling or blasting.
- B. Trench Rock: Solid mineral material with volume in excess of 2 cu yd. or solid material that cannot be removed with $\frac{3}{4}$ cu yd capacity excavator without drilling or blasting.
- C. Rock: Solid mineral material of size that cannot be removed with $\frac{3}{4}$ cu yd. capacity excavator.

1.4. SUBMITTALS

- A. Shop Drawings: Indicate proposed method of blasting, delay pattern, explosive types, type of blasting mat or cover, and intended rock removal method.

- B. Survey Report: Submit pre-blast survey report on conditions of buildings near locations of rock removal.

1.5. QUALITY ASSURANCE

- A. Explosives Firm: Company specializing in explosive for disintegration of rock, with five years documented experience.

1.6. PROJECT CONDITIONS

- A. Conduct pre-blast survey and document conditions of buildings near locations of rock removal, prior to blasting, and photograph existing conditions identifying existing irregularities.
- B. Advise owners of adjacent building or structures in writing, prior to executing survey. Explain planned blasting operations.

1.7. SCHEDULING

- A. Schedule Work to avoid disruption to occupied buildings nearby.
- B. Conduct blasting operations between the hours of 8:00 AM and 5:00 PM only, Monday through Friday.

PART 2 PRODUCTS

2.1. MATERIALS

- A. Explosives: Type recommended by explosive firm and required by authorities having jurisdiction.
- B. Delay Device: Type recommended by explosives firm.
- C. Blast Mat Materials: Type recommended by explosive firm.

PART 3 EXECUTION

3.1. EXAMINATION

- A. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2. PREPARATION

- A. Identify required lines, levels, contours, and datum.

3.3. ROCK REMOVAL BY MECHANICAL METHOD

- A. Excavation and remove rock by mechanical method.
 - 1. Drill holes and use expansive tools to fracture rock.
- B. Cut away rock at bottom of excavation to form level bearing.
- C. Remove shaled layers to provide sound and unshattered base for footings and foundations.
- D. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.
- E. Remove Excavated materials.
- F. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 02200 or as directed by Owner's Representative.

3.4. ROCK REMOVAL BY EXPLOSIVE METHODS

- A. When Rock is uncovered requiring explosives method for rock disintegration, notify Owner's Representative
- B. Provide seismographic monitoring during the progress of blasting operations.
- C. Drill Blasting holes within 12 feet of finished slope.
- D. Disintegrate rock and remove from excavation.
- E. Remove rock at excavation bottom to form level bearing.
- F. Remove Shale layers to provide sound and unshattered base for footings and foundations.
- G. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 -inches wider than pipe diameter.
- H. Remove excavated material.
- I. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 02200, or as directed by Owner's Representative.

3.5. FIELD QUALITY CONTROL

- A. All work pertaining to this section shall be done according the requirements outlined in Section 1400: Quality Control.
- B. Request visual inspection of foundation bearing surfaces by inspection agency before installing subsequent work.

- END OF SECTION -

SECTION 02261

RIPRAP

PART 1 GENERAL

1.1. RELATED DOCUMENTS

- A. Drawings and general provision of Contract, including General and Supplementary Conditions, apply to work of this section.

1.2. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200
- B. Erosion Control: Section 02270
- C. Geotextiles: Section 00274

1.3. DESCRIPTION

- A. Work Specified in this Section shall consist of furnishing all labor, materials, and equipment to place a protective covering of riprap on the slope of embankments, streambanks, channels, and storm drain outlets in conformity with the Contract Drawings and as specified herein.

PART 2 MATERIALS

2.1. TYPE OF STONE

Stones used for riprap shall consist of sound durable rock which will not become disintegrated by exposure to the action of water or weather. Rough unhewn quarry stone shall be used. Stones shall weight from 10 lbs. to 200 lbs except that when available suitable stones weighing more than 200 lbs may be used. The mean diameter (D_{50-size}) of the stone shall be as indicated on the Contract Drawings.

2.2. EXPOSED STONE

The exposed stones for riprap shall be angular and as nearly rectangular in cross-section as practicable. Rounded boulders or cobbles will not be permitted.

2.3. GEOTEXTILE

A geotextile conforming to Specification 02274, Geotextiles, paragraph 2.01A, shall be placed along the areas receiving riprap as shown on the Contract Drawings or as directed by the Owner's Representative.

PART 3 EXECUTION

3.1. PLACEMENT OF RIPRAP

Riprap shall be placed full depth in one operation without special handwork, shall be approximately true to the required slope line and grade and be uniform in appearance. Larger stones shall be placed at the base of the slope. The stone shall be placed on close contact with the longer axis perpendicular to the plane of the slope and so as to stagger joints. The openings between the stones shall be filled with spall, or gravel and rocks securely rammed into place.

- END OF SECTION -

SECTION 02270

EROSION CONTROL

PART 1 GENERAL

1.1. RELATED DOCUMENTS

Drawings, general provisions of contract, and supplementary general conditions apply to the work specified under this section.

1.2. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200
- B. Riprap: Section 02261
- C. Geotextiles: Section 00274
- D. Landscaping: Section 02900

1.3. DESCRIPTION OF WORK

- A. Work specified in this section shall consist of furnishing all labor, materials, and equipment necessary for the diversion of surface water from the construction area and installation of siltation and erosion control facilities in conformity with the contract drawings and as specified herein. Work shall also consist of furnishing all labor, materials, and equipment necessary to maintain a dewatering system to remove all water from excavations and trenches. The systems may include, but are not limited to, diversion ditches, temporary underdrains, cofferdams, pumps, and wellpoints.
- B. The Contractor shall provide temporary seeding, mulching, or other protective coverings to exposed earth surfaces or stockpiles which will be exposed to rain or wind elements for a period of greater than two weeks.
- C. The Contractor shall make provisions on the site to detain and filter water from the excavation operation so that sediments from the dewatering operation are contained. In no case will direct discharge from the dewatering operations to off-site drainage facilities be allowed.
- D. The Contractor shall provide both temporary and permanent riprap controls as needed and/or as shown on the Contract Drawings in order to control erosion.

- E. As construction activity progresses, the Contractor shall provide permanent seeding, mulching, or other protective landscape coverings to exposed earth surfaces effected by construction activities, as shown on the Contract Drawings, and as outlined in Section 02900, Landscaping.
- F. The Contractor shall furnish all labor, materials, and equipment to place a protective covering of riprap on the slopes of embankments, channels, and storm drain/culvert outlets in conformity with Contract Drawings and as specified herein.

1.4. SEDIMENT CONTROL GUIDELINES

- A. Maine Erosion and Sediment Control: Best Management Practices, current edition.

1.5. SUBMITTALS

- A. The Contractor shall furnish to the Owners' Representative, in writing, his plan for diverting surface water before beginning the construction work for which the diversion is required. Acceptance of this plan will not relieve the Contractor or responsibility for completion of the work as specified.
- B. Certification: For information only, submit 2 copies of certificates of inspection as required by governmental authorities, and manufacturer's or vendor's analysis for soil amendments and fertilizer materials. Submit other data substantiation that materials comply with specified requirements.

Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.

1.6. PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at the site.

1.7. JOB CONDITIONS

Contractor must examine the subgrade, verify the elevations, and observe the conditions under which work is to be performed and notify the Owner's Representative of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

Proceed with and complete the site restoration and stabilization work as rapidly as portions of the site become available, working within the required seasonal limitations.

1.8. QUALITY ASSURANCE

Subcontract the seeding work to a single firm specializing in landscape work.

A. Source Quality Control:

1. General: Ship seeding materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
2. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis be recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable or as further specified.
3. Grass Seed: All seed shall be certified as to mixture, germination, and purity as being in conformity with the following requirements:
 - a. Each variety of seed shall have a percentage of germination of not less than 80, a percentage of purity of not less than 85, and shall have not more than one percent of weed content.
 - b. All seed shall be from the same or previous year's crop unless recent tests by an approved testing agency demonstrate that older seed meets the above requirements.
4. Inspections: The Owner's Representative reserves the right to inspect any plant materials either at the place of growth or at the site before planting, for compliance with requirements for name, variety, size and quality.

PART 2 PRODUCTS

2.1. GENERAL

Materials incorporated in erosion control shall be specified in other sections or included herein. The Contractor shall provide, operate, and maintain all pumps, wellpoints, drains, pipe, and any other equipment necessary to keep the excavations and trenched free of water.

2.2. STRIPPINGS

Topsoil removed within the confines of the project area shall be segregated into piles, cleaned sufficiently, and reused in accordance with Section 02200, Earthwork. If quantity of stockpiles topsoil is insufficient, or quality is not in accordance with the requirement for topsoil, the Contractor shall provide additional topsoil from approved sources off the site as required to complete landscape work.

A. Soil Amendments:

1. Lime: Natural limestone containing not less than 90 % of the total carbonates, ground so that not less the 100% passes a 10-mesh sieve, not less than 90 % passes a 20 mesh sieve and not less than 50% passes a 100 mesh sieve.
2. Fertilizer: Fertilizer shall contain available elements in conformity with the standards of the Association of Official Agricultural Chemists. The fertilizer shall indicate the weight, contents and guarantee analysis shown thereon or on a securely attached tag, as applicable. The selection of fertilizer shall be based on the minimum phosphorus required by the soil as determined by the chemical analysis of soil samples. The Contractor shall be responsible for sampling and testing topsoil to determine the amount of phosphorus required from growing of grass.
 - a. Granular fertilizer shall be a commercial grade fertilizer containing the following percentages of available nutrients by weight:

Nitrogen	10 percent
Phosphoric Acid	20 percent
Potash	20 percent

The Owners' Representative may approve the use of other fertilizers providing they contain an equivalent amount of nutrients in an acceptable form.

2.3. GRASS SEED MIXTURE FOR TEMPORARY CONTROL

- A. Grass Seed: Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified.

The temporary seed mixture will be of one of the following:

Aroostock Rye: Recommended Seeding Dates: 9/15-11/1

Annual Ryegrass: Recommended Seeding Dates: 4/1-7/1

Perennial Ryegrass: Recommended Seeding Dates: 8/15-9/15

2.4. SILTATION FENCE

- A. Siltation fence shall be preassembled fence consisting of synthetic filter fabric reinforced with a supporting mesh and mounted on wood or metal stakes.
- B. The fence shall be Envirofence as manufactured by Mirafi, or approved equivalent.

2.5. EROSION CONTROL FABRIC

- A. Erosion control fabric shall be as specified in Section 00274, Geotextiles.

2.6. EROSION CONTROL BLANKET

- A. Erosion control blanket shall be S150 manufactured by North American Green or an approved equivalent. Permanent matting shall be C-300 manufactured by North American Green or an approved equivalent.

2.7. MISCELLANEOUS LANDSCAPE MATERIALS

- A. Mulch for Seeded Areas:
 - 1. Hay or straw mulch shall consist of long fibered hay or straw, reasonable free from noxious weeds and other undesirable material. No material shall be used which is too wet, decayed, or compacted as to inhibit even and uniform spreading. No chapped hay, grass clippings or other short fibered material shall be used unless directed.
 - 2. Cellulose fiber mulch shall consist of natural wood, recycled paper or humus cellulose fiber containing no material which will inhibit seed germination of plant growth. Sufficient not-toxic water-soluble green dye shall be added to provide a definite color contrast to the ground surface to aid in even distribution. Cellulose fiber mulch shall be supplied in moisture resistant, sealed bags marked with the manufacturer's name, the air-dry weight, and composition of the contents.
- B. Mulch Binder: Material for mulch binder shall consist of a commercially developed product for tacking of hay or straw. Binder shall be free of refuse, physical contaminants, asphalt, and materials toxic to plants.

2.8. RIPRAP STONE

1. Riprap shall be as specified in Section 02261, Riprap.

2.9. STONE CHECK DAMS

1. Stone check dams shall be constructed of a mixture of angular stones having a particle size of between 2 and 3 inches. The stone check dams shall be placed in ditches as indicated on the Contract Drawings.

PART 3 EXECUTION

3.1. GENERAL

- A. The Contractor shall provide for the diversion of surface water from the construction areas and install siltation and erosion control structures.
- B. The Contractor shall build all drains, dikes, sediment basins, install all siltation fencing, mulches, grasses, seeding, ditches, channels, riprap, grading, and all other work necessary to control water pollution, surface runoff, and soil erosion.
- C. The Contractor shall construct all erosion control devices in accordance with the Details shown in the Contract Drawings or manufacturer's recommendations.
- D. The Contractor shall provide temporary seeding, mulching, or other protective coverings to exposed earth surfaces or stockpiles which will be exposed to rain or wind elements through the fall and winter seasons.
- E. The Contractor shall maintain all facilities necessary to control water pollution, surface runoff, and soil erosion until permission is given by the Owner's Representative to discontinue the use of the facilities.

3.2. TOPSOIL PLACEMENT

Placement of topsoil shall be performed in a uniform manner, with no clumps or clods.

- A. It shall be the Contractor's responsibility to restore to the line, grade, and surface all eroded areas with approved material and to keep topsoiled areas in acceptable condition until turf is established and accepted by the Owner's Representative.

3.3. SEEDING

- A. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
- B. Rates of Application: Rate of application for limestone, fertilizer, and grass seed shall be:” Lime-3 tons per acre; fertilizer-800 lbs per acre; and temporary seed-Aroostock Rye: 112 lbs/acre: Annual Ryegrass: 40 lbs/acre; and Perennial Ryegrass: 40 lbs/acre.
- C. The hydraulic spray method shall be used for seeding all areas unless alternative methods are approved by the Owner’s Representative.
- D. Application Procedure.
 - 1. Hydraulic spray method of sowing seed shall be done with an approved machine operated by a competent crew. Seed and fertilizing materials shall be mixed with water in the tank of the machine and kept thoroughly agitated so the materials are uniformly mixed and suspended in the water at all times during operation. The spraying equipment must be designed and operated to distribute seed and fertilizing materials evenly and uniformly on the designated areas at the required rates. If the Owner’s Representative finds the application uneven or otherwise unsatisfactory, he may require the hydraulic spray method to be abandoned and the balance of the work done as specified under another method.
- E. Mulching:
 - 1. Cellulose fiber mulch shall be applied as waterborne slurry. The cellulose fiber and water shall be thoroughly mixed and sprayed on the area to be covered so as to form a uniform mat of mulch at the rate of not less than 4000 pounds of mulch material per acre of area.

Cellulose fiber mulch may be mixed with the proper quantities of seed, fertilizer, and agricultural limestone as required, or may be applied separately the next day after seeding.
 - 2. Hay or straw mulch shall be spread evenly and uniformly over any designated areas or as directed by the Owner’s Representative in the field so as to avoid damage to seeded areas. Unless otherwise directed, mulch shall be applied at the rate of 1.5-2 tons per acres. Too heavy application of mulch shall be avoided. Lumps and thick mulch material shall be thinned.

Unless otherwise authorized, the mulch shall be anchored in place by uniformly applying an acceptable mulch binder at a rate of 10 to 13

gallons per 1,000 sq. ft. Application of a concentrated stream of mulch binder will not be allowed. Other methods of anchoring mulch may be used subject to approval.

- F. Erosion Control Blanket: Erosion control blanket shall be placed at locations indicated on Contract Drawings. The anchoring of the blanket shall be as indicated in the Contract Drawings.

3.4. PLACEMENT OF RIPRAP

Riprap shall be placed as specified in Section 02261, Riprap.

3.5. MAINTENANCE AND ACCEPTANCE

A. Seeded Areas:

1. Maintain seeded areas by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regarding and replanting as required to establish a smooth, acceptable grass growth, free or eroded bare areas.
2. Seeding, April 1 to September 14, Inclusive: The Contractor shall maintain each seeded area until acceptance of the individual area. Maintenance shall consist of providing protection by erecting necessary signs and barriers and by repairing damaged areas as directed. Damaged areas and areas which do not produce a satisfactory stand of grass shall be repaired to re-establish the condition and grade of the area prior to the original seeding and then refortified, reseeded, and mulched as specified to produce satisfactory results.

Areas fertilized and seeded by the hydraulic method will be accepted only upon attainment of a reasonable thick uniform stand of not less than 80 percent coverage of permanent grasses, free from sizable thin or bare spots.

3. Seeding, September 16 to March 31, Inclusive: The Contractor shall maintain each seeded area until acceptance of the individual area. Maintenance shall consist of providing protection by erecting necessary signs or barriers and by repairing damaged areas as directed. Damaged areas shall be repaired by re-establishing the grade of the area prior to damage and by reapplying mulch. Refertilizing and reseeding will not be required during this period. Necessary maintenance or repairs will not be paid for but shall be considered incidental to the Contract. Areas fertilized, seeded, and mulched between September 16 and March 31 will be accepted only upon attainment of a reasonable thick uniform stand of not less than 80

percent coverage of permanent grasses, free from sizable thin or bare spots.

3.6. PERFORMANCE

A. General:

1. Excavations and trenches shall be kept dry until pipes, liners, structures, and appurtenances to be constructed are installed.
2. Dewatering work shall be performed, when necessary, at no extra cost to the Owner.

B. Damage:

1. All damage resulting from dewatering operations or lack of dewatering operations shall be repaired by the Contractor at no additional expense to the Owner.

3.7. REMOVAL OF TEMPORARY DEWATERING SYSTEMS

- #### **A.**
- After the need for a dewatering system has passed, the system shall be removed. The site shall be regarded to blend with the surrounding area and provide for the unobstructed flow of water.

- END OF SECTION -

SECTION 02274

GEOTEXTILES

PART 1 GENERAL

1.1. RELATED DOCUMENTS

- A. The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any) apply to the work specified in this Section.

1.2. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200
- B. Riprap: Section 02261

1.3. DESCRIPTION

- A. Furnish and install geotextiles at the locations and in the manner shown on the drawings or as directed by the Owner's Representative.

1.4. SUBMITTALS

- A. If brand name materials other than those suggested in this Section are proposed for use, furnish certified copy of laboratory test results and material sample as evidence that the material is similar and equal in strength, durability, and permeability.

PART 2 PRODUCTS

2.1. MATERIALS

- A. Non-Woven Geotextile:
 - 1. Geotextile shall be resistant to rot, mildew, insects, rodents, salt water, and other biological and chemical substances commonly encountered in the ground.
 - 2. The geotextile used in construction of the riprap channels shall be Mirafi 180N or an approved equal except as shown on the contract drawings.

PART 3 EXECUTION

3.1. PREPARATION OF BASE OF GEOTEXTILE

Subgrade surfaces shall be properly graded and compacted as called for. All sharp or protruding objects shall be removed from the subgrade surface prior to fabric placement. Geotextile fabric shall not be placed until the foundation preparation is completed and the subgrade surfaces have been inspected and approved by the Owner's Representative.

3.2. INSTALLATION

A. Geotextile installation shall include the following considerations:

1. Place in the manner and at the locations shown on the drawings.
2. At the time of installation, geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation or storage.
3. Place with the long dimension parallel to the centerline of the drainage channel and along the slope of the spillway, and lay smooth and free of tension, stress, folds, wrinkles, or creases.
4. Provide a minimum width of 36 in. of overlap for each joint, unless seamed.
5. Overlap joints and seams shall be measured as a single layer of geotextile.
6. Secure with pins, recommended by the manufacturer, through both strips of overlapped geotextile at not greater than the following intervals along a line through the midpoint of the overlap.

<u>Pin Spacing</u>	<u>Slope</u>
2 ft.	Steeper than 3:1
3 ft.	3:1 to 4:1
5 ft.	Flatter than 4:1

7. Install additional pins regardless of location as necessary to prevent any slippage of the geotextile.
8. Place so that the upstream strip of geotextile will overlap the downstream strip.

9. Push each securing pin through the geotextile until the washer bears against the fabric and secures it firmly to the foundation.
10. Seaming, (at the option of the Contractor). Seams shall contain between 4 and 7 stitches per inch. The seam shall be at least 1 to 1-1/2 inches from the edge of the fabric. No horizontal seams shall be allowed on slopes steeper than 10 (horizontal) to 1 (vertical). The thread used in sewing shall be polymeric thread with chemical and ultraviolet light resistance properties equal to or exceeding those of the geotextile. Seams shall have a minimum of sixty percent of the fabric strength.

C. Protections of Geotextile:

1. Exercise necessary care while transporting, storing, and installing the geotextile to prevent damaging it.
2. Protect from prolonged direct exposure to sunlight.
3. Repair all damaged areas of the geotextile by placing another piece of geotextile of sufficient size to extend a minimum of 1.0 foot beyond the limits of the damage in all directions over the damaged area.
4. Do not leave exposed for more than 2 days without being covered by backfill.
5. Overlap successive pieces of geotextile a minimum of 1.0 foot.
6. When required, sew overlaps and repairs to damaged geotextile using a portable machine to provide seam strength of at least 90 percent of the filter fabric strength.
7. Upon delivery to the site, geotextiles will be wrapped with a plastic tarp or stored inside a trailer or building to prevent dust clogging.

- END OF SECTION -

SECTION 02510

BITUMINOUS CONCRETE PAVING

PART 1 GENERAL

1.1. DESCRIPTION

Furnish all labor, materials, and equipment to construct plant mix bituminous concrete in conformity with the Contract Drawings and as specified herein.

1.2. RELATED DOCUMENTS

- A. The drawings and general provisions of Contract, including General and Supplementary Conditions, (if any), apply to work of this Section.
- B. State of Maine, Department of Transportation, Standard Specifications Highways and Bridges, current edition, hereafter designated as MDOT Specifications.

1.3. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200

1.4. SUBMITTALS

- A. Mix Design: Provide the Owner's Representative with a job mix formula for each course used in the work.
- B. Test Reports: Provide two copies of each test described below at the frequency determined in paragraph C.
 - 1. Aggregate Material: Submit laboratory test reports that confirm aggregates used in the bituminous mix conform to Section 703 of the MDOT Specifications.
 - 2. Asphalt Cement: Submit laboratory test reports that bituminous material used in the bituminous mix conforms to Section 702 of the MDOT Specifications.
- C. Frequency of Testing:
 - 1. Aggregate Material: Submit laboratory test reports of the stockpiled aggregates initially used in the mix and additional test reports for each change of source.

2. Asphalt Cement: Submit laboratory test reports for asphalt cement used in the initial mix and additional test reports for each change of source.

1.5. QUALITY ASSURANCE

- A. Qualifications of Bituminous Concrete Producer: Use only materials which are furnished by a bulk bituminous concrete producer regularly engaged in production of hot-mix, hot-laid bituminous concrete.
- B. Qualifications of Testing Agency: Use only recognized commercial testing laboratories with not less than 5 years experience in conducting tests and evaluations of bituminous concrete materials and design.

PART 2 PRODUCTS

2.1. MATERIALS

- A. Aggregates: Conform to Section 703 of MDOT Specifications.
- B. Asphalt Cement: Conform to Section 702 of MDOT Specifications
- C. Bituminous Concrete: Bituminous concrete pavement shall meet the requirements of section 403 of the MDOT Specification for the pavement.
- D. Comply with materials requirements of MDOT Section 409.

PART 3 EXECUTION

3.1. INSTALLATION

- A. Place Mix Hot Bituminous Pavement: Produce and place pavements in conformance with Section 401 of MDOT Specifications.
- B. Trench Pavement Repair:
 1. Saw edges of existing pavement to provide a vertical bonding face.
 2. Apply a tack coat to the sawn edges.
 3. Apply bituminous concrete paving as specified in Contract Drawings.
 4. Roller compact both surfaces, compacting the final wear course to meet existing pavement surfaces exactly.

- END OF SECTION -

SECTION 02511

FULL DEPTH RECYCLING WITH CEMENT

PART 1 GENERAL

1.1. DESCRIPTION

Furnish all labor, materials, and equipment to complete full depth recycling with cement in conformity with the Contract Drawings and as specified herein.

1.2. RELATED DOCUMENTS

- A. The drawings and general provisions of Contract, including General and Supplementary Conditions, (if any), apply to work of this Section.
- B. State of Maine, Department of Transportation, Standard Specifications Highways and Bridges, current edition, Section 308

1.3. RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02200: Earthwork
- B. Section 02510: Bituminous Concrete Paving

1.4. SUBMITTALS

- A. Per MDOT: Section 308
 - a. Cement Spreader Method
 - b. Health and Safety (Monitoring) Plan
 - c. Quality Control Plan

1.5. QUALITY ASSURANCE

- A. Per MDOT: 308.10 Quality Control

PART 2 PRODUCTS

2.1. MATERIALS

- A. Comply with materials requirements of MDOT Section 308, 703, and as applicable.

PART 3 EXECUTION

3.1. INSTALLATION

- A. Contractor shall follow construction instructions as described in Section 308.09 – Full Depth Recycling Procedure and as highlighted below.
- B. Pulverize and blend existing material into a homogeneous mass.
 - a. Existing condition cross-section thickness varies; see Geotechnical report for details.
 - b. All pulverized materials shall pass a 2-inch square mesh sieve.
- C. Install additional materials as shown in the plans and profiles.
- D. Apply Portland cement in an approved manner and at an approved rate.
- E. Integrate cement into the cross-section and maintain optimal water concentration.
- F. Complete material testing to ensure application rate and depth are meeting requirements.
- G. Sweep prior to placement of asphalt.

- END OF SECTION -

SECTION 02610

STORM DRAINS AND CULVERTS

PART 1 GENERAL

1.1. SECTION INCLUDES

- A. High-density polyethylene (HDPE) pipe culvert, joints, and accessories.
- B. HDPE or PolyVinyl Chloride (PVC) storm sewer pipe, joints, and accessories.
- C. Bedding and slope protection at pipe end.

1.2. RELATED SECTIONS

- A. Section 01300: Submittals.
- B. Section 01400: Quality Control.
- C. Section 01500: Temporary General Services.
- D. Section 01700: Contract Closeout.
- E. Section 02200: Earthwork.

1.3. SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide data on pipe, fittings, and accessories.
- C. Manufacturer's installation instructions: Indicate special procedures required to install products specified.

1.4. PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700.
- B. Accurately record actual locations of pipe runs, connections, and invert elevations.
- C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5. REGULATORY REQUIREMENTS

- A. Conform to applicable code for installation of the work of this section.

1.6. FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on Shop Drawings.

1.7. COORDINATION

- A. Coordinate the work with adjacent earthwork and catch basin installations.

PART 2 PRODUCTS

2.1. CULVERTS

- A. HDPE Dual Wall Culvert: N-12 as manufactured by Advanced Drainage Systems Inc. or approved equal, meeting ASTM F2648, D2321, F2306, and M294
- A. Bell end coupling or approved equal

2.2. STORM DRAINS

- A. High Density Polyethylene Pipe, PVC pipe, or approved equal.
 - 1. High Density Polyethylene Pipe: Hi-Q as manufactured by Hancor, Inc. or approved equal, or
 - 2. PVC Pipe: ANSI/ASTM D 3034, SDR 35, bell and spigot end joints.
- B. Fittings/Joints:
 - 1. High Density Polyethylene Pipe: Silt-Tight Coupler as manufactured by Hancor, Inc. or approved equal.
 - 2. PVC Pipe: ANSI/ASTM D3212 and F477, rubber compression gasket joint.

2.3. BEDDING MATERIALS

- A. Bedding: As specified in Section 02200.

2.4. ACCESSORIES

- A. Fill at Pipe Ends: Rip rap as specified in Section 02261.
- B. Insulation: 2-inch rigid, R-10 minimum, extruded polystyrene (XPS)

PART 3 EXECUTION

3.1. EXAMINATION

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawing.
- B. Beginning of installation constitutes acceptance of existing conditions.

3.2. PREPARATION

- A. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.
- B. Hand trim excavations to required elevations. Correct over excavation with approved fill material.
- C. Culvert piping trench shall be a tapered excavation as shown in the Contract Drawing details.

3.3. BEDDING

- A. Excavate pipe trench to 6 inches below pipe invert, in accordance with Section 02220 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6 inches compacted depth, compact to 95 percent.
- C. Backfill around sides and to top of pipe with fill, manually place bedding around pipe haunches for lateral support.
- D. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4. INSTALLATION - PIPE

- A. Install pipe and accessories in accordance with manufacturer's instructions.
- B. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.
- C. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope.
- D. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch of 10 feet.

- E. Repair surface damage to pipe protective coating with two coats of compatible bituminous paint coating.
- F. Install aggregate at sides and over top of pipe. Provide top cover to minimum compacted thickness of 12 inches.
- G. Refer to Section 02220 for trenching requirements. Do not displace or damage pipe when compacting.

3.5. PIPE INSULATION

- A. All storm drains with less than 4-feet of cover shall be insulated.
- B. Extend insulation minimum 12-inches beyond outside edges of pipe, and to within 6-inches of either side of trench.
- C. Install horizontal insulation on top of minimum 6-inch layer of compacted select bedding material above top of pipe.
- D. Backfill by hand for first 6-8 inches over insulation and compact prior to placing remaining backfill.
- E. Install insulation in accordance with manufacturer's recommendations.
- F. Rigid insulation shall be clean, dry and free of any material which can dissolve plastic, such as asphalt.

3.6. FILL AT PIPE ENDS

- A. Place fill at pipe ends, at embankment slopes as indicated.
- B. Installed thickness: 12 inch average.

3.7. ERECTION TOLERANCES

- A. Maximum Variation from Intended Elevation of Culvert Invert: 1/2 inch.
- B. Maximum Offset of Pipe from True Alignment: 1 inch.
- C. Maximum Variation in Profile of Structure from Intended Position: 1 percent.

3.8. FIELD QUALITY CONTROL

- A. Field testing will be performed under the provisions of Section 01400.
- B. Request inspection prior to placing aggregate cover over pipe.
- C. Compaction testing will be performed in accordance with ASTM D2922.
- D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.9. PROTECTION

- A. Protect finished Work under provisions of Section 01500.
- B. Protect pipe and bedding from damage or displacement until backfilling operation is in progress.
- C. Do not use PVC pipe where it will be exposed to sunlight.

- END OF SECTION -

SECTION 02721

MANHOLES, CATCH BASINS, AND DRAINAGE STRUCTURES

PART 1 GENERAL

1.1. RELATED DOCUMENTS

Drawings, general provisions of Contract, and supplementary general conditions apply to the work specified under this Section.

1.2. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200
- B. Erosion Control: Section 02270
- C. Gravity Sewers: Section 02731
- D. Cast-in-Place Concrete: Section 03300

1.3. DESCRIPTION OF WORK

Work specified in this section shall consist of furnishing all labor, materials, and equipment to construct manholes, catch basins, or drainage structures, in conformity with the contract drawings and as specified herein.

1.4. SUBMITTALS

The contractor shall submit to the Owner's Representative shop drawings of all precast units. Manufacturer's information shall be submitted for joint sealants and waterproofing.

PART 2 MATERIALS

2.1. MANHOLES

- A. Base Sections: Precast monolithic construction with steps.
- B. Barrel Sections: Precast with steps.
- C. Top Sections: Precast eccentric cone with steps. Use flat cover only if shown on Drawings.
- D. Steps: Polypropylene reinforced with steel rod. Meet OSHA requirements; min. width 14 inches.

- E. Pipe to Manhole Connections: Flexible manhole sleeves equal to CP series manufactured by Interpace Corp. size to fit diameter and type of pipe without use of gaskets.
- F. Joints Between Precast Sections: Watertight, shiplap type, seal with two rings of 1-inch diameter butyl rubber sealant.

2.2. CATCH BASINS

- A. Base Sections: Precast.
- B. Barrel Sections: Precast.
- C. Top Sections: Precast concentric cone or flat cover if required by grade.
- D. Joints between precast sections: Watertight, shiplap type, seal with two rings of 1-inch diameter butyl rubber sealant.

2.3. MORTAR

Cement mortar shall be prepared in the following manner:

- A. The cement shall be Type II. The mix shall be one (1) part cement to three (3) parts clean, well graded, hard, durable sand. Hydrated lime may be added to the mixture in an amount not to exceed 15% by weight of the cement. The amount of water shall be only the amount necessary to make a workable mix.

2.4. BRICK

Brick for manholes shall meet the latest AASHTO Specification Designation M-91.

2.5. WATERPROOFING

Waterproofing for manholes shall be:

- A. Epoxy Paint: Minimum 1 primer coat 3 to 5 mils and 2 topcoats 4 to 6 mils thick.
- B. Cement base coating suitable for brush coat application.

2.6. FRAMES AND COVERS

- A. All castings shall be made of clean, even grain, gray cast iron. The castings shall be smooth, true to pattern and free from projections, sand holes, warp, and

other defects which would interfere with the use of, or impair the serviceability of the castings.

- B. The horizontal surface of the cover seat and under surface of the cover which rests upon the cover seat shall be machined on all frames and covers. After machining it shall be impossible to rock any cover after it has been seated on its associated frame.
- C. The iron used for castings shall conform to ASTM Designation A 48 for Class 30 gray iron.
- D. Unless otherwise shown on the Drawings, all castings shall be coated with coal tar pitch varnish, to which sufficient oil has been added to make a smooth coating, tough and tenacious when cold, not tacky and not brittle.
- E. Manufacturer's name and catalog figure number must be cast on each frame and cover. The word SEWER or DRAIN must be stamped on the manhole covers as appropriate.

PART 3 EXECUTION

3.1. INSTALLATION

- A. General
 - 1. The excavation shall be properly dewatered while placing bedding material and setting the base or placing concrete. Bases shall be placed on a 12-inch layer of compacted stone bedding.
 - 2. Inlet and outlet stubs shall be connected and sealed as shown on the Drawings.
 - 3. Barrel sections and cones of the appropriate combination of heights shall then be placed using manufacturer's recommended procedure for sealing the horizontal joints, and as shown on the Drawings or the remaining barrel of the manhole shall be cast above the base.
 - 4. The frame and cover shall be placed on the top or some other means of preventing accidental entry by unauthorized persons, children, animals, etc., until the Contractor is ready to make final adjustment to grade.
- B. Frames and Covers: Frames shall be set on mortared brick courses true to grade and concentric with the opening. All voids beneath the bottom flange and in the brick courses shall be completely filled to make a watertight fit. A ring of mortar at least 1 inch thick shall be placed around the outside of the

bottom flange, extending to the edge of the manhole all around its circumference. The bricks and mortar shall not extend beyond the top of precast concrete cone section.

- C. Waterproofing: The waterproofing of the exterior surfaces of manholes shall be one of the following methods:
 - 1. Epoxy Coating: After the concrete or cement plaster has set, two coats of an approved epoxy waterproofing material shall be applied to all outside surfaces of manholes. Waterproofing material shall be applied by brush or spray, in accordance with the manufacturer's instructions. Time shall be allowed between coats to permit sufficient drying so that the application of the second coat has no effect on the first.
 - 2. Cement Base Coating: Cement base coatings delivered in sealed containers shall be mixed in accordance with the manufacturer's recommendations and applied with a stiff brush in 2 coats. Each coat shall be applied at the rate of 2 lb per sq. yd.
- D. Holes for pipes shall be cast in the base section so that there is a clear distance of 4-1/2" minimum between the inside bottom of the base section and the pipe invert.

3.2. VACUUM LEAKAGE TESTS

- A. General
 - 1. To be observed by the Owner's Representative on each manhole.
 - 2. A vacuum test made as described below. Manhole to pipe connection must be a flexible connector to perform this testing.
- B. Preparation for Test:
 - 1. After the manhole has been assembled in place, fill lifting holes and point with an approved non-shrinking mortar.
 - 2. Perform test prior to placing the shelf and invert and before filling and pointing the horizontal joints, and before backfilling.
 - 3. If the groundwater table has been allowed to rise above the bottom of the manhole, lower for the duration of the test.
 - 4. Plug pipes and other openings into the manhole and brace the plugs to prevent blow out.

C. Test Pressure:

1. Test immediately after manhole assembly.
2. Use manhole vacuum test equipment equal to NPC Systems, Inc., Milford, New Hampshire.
3. Set tester in place
4. Inflate compression band to seal base to structure.
5. Draw a vacuum of 10-in. Hg.
6. Close the valve.
7. Acceptable test:
 - a. Less than 1-in. Hg. drop in 60 seconds for a manhole less than 10 ft in depth (48-inch diameter).
 - b. Less than 1-in. Hg drop in 90 seconds for a manhole less than 20 ft in depth (48-inch diameter).
8. If leakage occurs fill those points with non-shrink grout, allow to set and retest.
9. Rejected Manholes: Disassemble, reconstruct or replace as directed by the Owner's Representative.

- D. Backfilling: The test may be conducted either before or after backfilling around the manhole. However, if the Contractor elects to backfill prior to testing, for any reason, it shall be at his own risk and it shall be incumbent upon the Contractor to determine the reason for any failure of the test. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc., (i.e., it will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete). Furthermore, the Contractor shall take any steps necessary to assure the Owner's Representative that the water table is below the bottom of the manhole

- END OF SECTION -

SECTION 02900

LANDSCAPING

PART 1 GENERAL

1.1. RELATED DOCUMENTS

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in this Section.

1.2. RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 02200
- B. Erosion Control: Section 02270

1.3. DESCRIPTION OF WORK

Work specified in this section shall consist of furnishing all labor, materials, and equipment to perform site restoration work in conformity with the contract drawings and as specified herein. Excavation, filling, and grading required to establish elevations shown on the Drawings are not specified in this Section. Refer to Section 02200, Earthwork. Site restoration shall generally consist of loaming and seeding areas designated to be revegetated.

This work shall consist of preparing the soil and furnishing and applying agricultural ground limestone, fertilizer, and grass seed to areas shown on the plans, or authorized.

This work shall also include installation of landscaping as detailed on the plans.

Seeding, Method Number 1 shall consist of soil preparation and the application of "Park Mixture" to loamed areas which are expected to be maintained by frequent mowing.

Seeding, Method Number 2 shall consist of soil preparation and the application of "Roadside Mixture" to loamed or unloamed areas which are expected to be maintained by infrequent mowing.

1.4. QUALITY ASSURANCE

Subcontract the seeding work to a single firm specializing in landscape work.

- A. Source Quality Control:

1. General: Ship landscape materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
2. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable or as further specified.
3. Topsoil: The Contractor will be required to spread the topsoil, fertilize, and see in accordance with the specifications
4. Plant Materials:
 - a. Plant materials shall mean trees, shrubs, ground covers, and plants of all descriptions, required to be furnished for the project and shall conform to all provisions of the publication, "American Standard for Nursery Stock."
 - b. Substitutions: In the event that trees, shrubs, or other plant material specified in the plant list are in the opinion of the Contractor, impossible or unreasonably difficult to obtain, the Contractor shall immediately notify the Owner's Representative to discuss appropriate substitutions. No substitutions of the plant material may be made without the prior approval of the Owner's Representative. When authorized, adjustment of contract amount will be made.
5. Grass Seed: All seed shall be certified as to mixture, germination, and purity, as being in conformity with the following requirements:
 - a. Each variety of seed shall have a percentage of germination of not less than 80, a percentage of purity of not less than 85, and shall have not more than one percent of weed content.
 - b. All seed shall be from the same or previous year's crop unless recent tests by an approved testing agency demonstrates that older seed meets the above requirements.
6. Inspection: The Owner's Representative reserves the right to inspect any plant materials either at the place of growth or at the site before planting, for compliance with requirements for name, variety, size and quality.

1.5. SUBMITTALS

- A. Certification: For information only, submit 2 copies of certificates of inspection as required by governmental authorities, and manufacturers or vendors analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.

Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.

1.6. PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at the site.

- B. Plant Materials:

1. In preparing plants for moving, all precautions customary in good trade practice shall be taken. All plants shall be dug immediately before moving unless otherwise specified. Broken, loose, or manufactured balls will be rejected.
2. All plants shall be packed, transported, and handled with utmost care to ensure adequate protection against injury and drying. Do not bend or bind-tie trees or shrubs in such manner as to damage bark break branches or destroy natural shape. Provide protection during delivery.
3. Deliver plant materials after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set all plants in shade, protect from weather and mechanical damage, and keep roots moist.
4. Label all plant materials of each variety with securely attached waterproof tag bearing legible designation of botanical and common name.

1.7. JOB CONDITIONS

- A. Contractor must examine the subgrade, verify the elevations, observe the conditions under which work is to be performed and notify the Owner's Representative of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

- B. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned.
- C. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, the Contractor shall notify the Owner's Representative before planting. The Contractor shall be responsible for correcting such conditions.
- D. Planting and Seeding Seasons: Unless a variance is requested in writing and approved by the Owner's Representative, planting and seeding shall be done within the following dates:

Lawns	April 1 – September 15
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Plant Materials:

Potted and container	Spring: April 1 – July 15
Grown Plants	Fall: August 15 – November 15
Balled and Burlapped	Spring: April 1 – June 15
Plants	Fall: August 15 – October 15

- E. Coordination with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to the Owner's Representative. If planting of trees and shrubs occur after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

PART 2 PRODUCTS

2.1. LOAM

Provide topsoil as required which is fertile, friable, natural loam, surface soil, reasonably free of subsoil, clay lumps, brush, weeds, and other litter, and free of roots, stumps, stones larger than 2" in any dimension, and other extraneous or toxic matter harmful to plant growth. Mulch peat or other excessively acidic soil shall not be used.

Submit representative soil samples of topsoil from off-site sources to qualified soil testing laboratory to ascertain what amendments may be necessary to obtain proper tilth, nutrient characteristics, and pH balance in accordance with the following. Provide amendments as necessary at rates indicated on the soil test in accordance with the following criteria:

Organic Matter: Greater than 5% organic matter (by weight)
pH range: 5.8 to 6.2

Phosphorus/Potassium: Low to medium range
Soluble Salt: Not greater than 500 ppm

Obtain topsoil from on-site, local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes.

A. Soil Amendments:

1. Lime: Natural limestone containing not less than 90% of total carbonates, ground so that not less than 100% passes a 10-mesh sieve, not less than 100% passes a 10-mesh sieve, not less than 90% passes a 20-mesh sieve, and not less than 50% passes a 100-mesh sieve.
2. Fertilizer: Fertilizer shall contain available elements in conformity with the standards of the Association of Official Agricultural Chemists. The fertilizer shall indicate the weight, contents and guarantee analysis shown thereon or on a securely attached tag, as applicable. The selection of fertilizer shall be based on the minimum phosphorus required by the soil as determined by the chemical analysis of soil samples.
3. Peat Humus: Peat humus shall be a natural peat approved by the Owner's Representative consisting of sedge, sphagnum or reed peat of such physical condition as will pass through a 1-inch screen and will be readily incorporated with the topsoil. The peat humus shall be free from sticks, stones, roots, and other objectionable matter.

2.2. GRASS MATERIAL

- A.** The seeds shall conform to the requirements of the laws of the State of Maine. All seeds shall be furnished fully tagged and bagged. The minimum percentage of weight of pure live seed in each lot shall not be less than 80 percent. All germination tests shall have been made not more than 6 months prior to the date of plating. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. At the discretion of the Owner's Representative, all materials shall be subject to additional sampling and testing. If such testing is required, it shall be conducted in accordance with official methods normally used by the State of Maine Department of Agriculture.

Seed Mixtures: The seed mixtures shall consist of seeds proportioned percent by weight as follows:

<u>Method Number 1</u>	<u>Method Number 2</u>
Park Mixture	Roadside Mixture
Creeping Red Fescue – 50%	Creeping Red Fescue – 50%
Kentucky Bluegrass – 30%	Kentucky Bluegrass – 15%
Annual Ryegrass – 20%	White Clover – 5%
White Clover – 10%	Red Top – 2%
	Birdsfoot Trefoil, Var. – 5%
	Empire – 3%
	Annual Ryegrass – 20%

Seed will be applied at a rate of 4 pounds per unit (200 pounds per acre).

The Owner reserves the right to make minor changes in the seed mix. Contractor shall obtain approval of the seed mix by the Owner, prior to seeding.

2.3. PLANT MATERIALS

A. Quality:

1. Provide trees, shrubs, and other plants complying with the recommendations and requirements of ANSI Z260.1 “Standard for Nursery Stock” as published by the American Association of Nurserymen. All plants shall be nursery grown unless otherwise stated and shall have been growing under the same climatic conditions as the location of this project for at least two (2) years prior to award date of this contract.

- B. Deciduous Shrubs: Provide balled and burlapped (B&B) deciduous shrubs otherwise noted in plant list. Container grown deciduous shrubs will be acceptable in lieu of B&B shrubs as approved by the Owner’s Representative.
- C. Coniferous and Broadleaf Evergreens: Provide B&B evergreens. Container grown evergreens will be acceptable as approved by the Owner’s Representative.
- D. Deciduous Trees: Provide B&B deciduous trees unless otherwise noted in plant list. Container grown deciduous trees will be accepted in lieu of B&B deciduous trees as approved by the Owner’s Representative.

2.4. SOD MATERIALS

- A. Sod shall be composed of the grass mixture as recommended by the New England Sod Producer’s Associations and shall be one of the following, as based on site conditions:

For Sunny Turf Areas:

Kentucky Bluegrass	50 – 100%
Red Fescue	0 – 50%

(Use one or more of the following Kentucky Bluegrass varieties: Marion, Fylking, Pennstar, Windsor, Baron)

For Shady Turf Areas:

Kentucky Bluegrass	10 – 25%
Red Fescue	75 – 90%
Poa Trivials	10 – 10%

(Use the following Red Fescue varieties: Highlight Jamestown, Penn Lawn)

- B. Lawn sods shall have been nursery grown on cultivated agricultural land specifically for sod purposes. The sods shall be free of objectionable grassy and broad leaf weeds. Sod shall be considered free of such weeds if less than 5 such plants are found per 100 sq ft of area. The sod shall be machine cut at a uniform thickness of $\frac{3}{4}$ inc. at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths will not be acceptable.
- C. Pegs for holding sod shall be approved sound wood and at least $\frac{3}{4}$ in. in thickness and at least 8 in. long.

2.5. Miscellaneous Landscape Materials:

- A. Planting Bed Mulch: Provide shredded bark mulch for planting beds. Do not use material that is decayed or mixed with soil, weeds, or other foreign matter. Use material that is large enough in size to prevent it from drifting and blowing in normal wind storms. Submit samples to Owner's Representative for approval prior to delivery of bark mulch to site.
- B. Anti-Erosion Mulch: Use "Erosionet" or similar mulch where slopes are too severe to be maintained by planting bed mulch alone.
- C. Anti-Desiccant: Emulsion type, film forming agent or Wilt-Pruf by Nursery Specialty Products, Inc., designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.

- D. Wrapping: Wrapping material for tree trunks shall be furnished in strips approximately 4 to 6 inches wide consisting of first quality 8 oz per sq yd burlap, approved waterproof paper tape or polyethylene film, ASTM D 2103.
- E. Stakes and Guys: Provide stakes of sound new hardwood, free of known holes and other defects. Provide wire ties and guys of 2-strand, twisted, pliable, galvanized iron wire not lighter than 12 ga. With zinc-coated turnbuckles or an approved equal. Provide new 2-ply garden hose no less than 1.2 in. hose size, cut to required lengths to protect tree trunks from damage by wires or an approved equal.
- F. Mulch for Seeded Areas:
 - 1. Hay or straw mulch shall consist of long fibered hay or straw, reasonably free from noxious weeds and other undesirable material. No material shall be used which is too wet, decayed, or compacted as to inhibit even and uniform spreading. No chopped hay, grass clippings or other short fibered material shall be used unless directed. A mulch netting will be used to anchor the mulch as directed by the Owner's Representative.
 - 2. Cellulose fiber mulch shall consist of natural wood, recycled paper of humus cellulose fiber containing no material which will inhibit seed germination or plant growth. Sufficient non-toxic water soluble green dye shall be added to provide a definite color contrast to the ground surface to aid in even distribution. Cellulose fiber mulch shall be supplied in moisture resistant, sealed bags marked with the manufacturer's name, the air dry weight, and the composition of the contents.

PART 3 EXECUTION

3.1. TOPSOIL (LOAM)

- A. Locations
 - 1. A vertical lift of 6 inches of loam, will be placed on all areas within the project site where grading has occurred.
 - 2. All other disturbed areas as a result of construction will require a 4-inch layer or loam.
- B. Application Plans
 - 1. The 6 inches of topsoil will be allowed to be placed in one lift.

2. The topsoil will be graded and spread in a manner that allows final elevations to be met and also promotes grass catch.

3.2. SEEDING

- A. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
- B. Rates of Application: Rates of application for limestone, fertilizer, and grass seed shall be as specified herein.
- C. The hydraulic spray method shall be used for seeding all areas unless alternative methods are approved by the Owner's Representative.
- D. Application Procedure:
 1. Hydraulic Spray Method: The hydraulic spray method of sowing seed shall be done with an approved machine operated by a competent crew. Seed and fertilizing materials shall be mixed with water in the tank of the machine and kept thoroughly agitated so the materials are uniformly mixed and suspended in the water at all times during operation. The spraying equipment must be designed and operated to distribute seed and fertilizing materials evenly and uniformly on the designated areas at the required rates. If the Owner's Representative finds the application uneven or otherwise unsatisfactory, he may require the hydraulic spray method to be abandoned and the balance of work done as specified under another method.
- E. Mulching:
 1. Cellulose fiber mulch shall be applied as a waterborne slurry. The cellulose fiber and water shall be thoroughly mixed and sprayed on the area to be covered so as to form a uniform mat of mulch at the rate of not less than 60 pounds of mulch material per 1,000 square feet of area.

Cellulose fiber mulch may be mixed with proper quantities of seed, fertilizer, and agricultural limestone as required, or may be applied separately the next day after seeding.
 2. Hay or straw mulch shall be spread evenly and uniformly over any designated areas or as directed by the Owner's Representative in the field so to avoid damage to seeded areas. Unless otherwise directed, mulch shall be applied at the rate of 2 tons per acre. Too heavy application of mulch shall be avoided. Lumps and thick mulch material shall be thinned.

Unless otherwise authorized, the mulch shall be anchored in place by uniformly applying an acceptable mulch binder at a rate of 10 to 13 gallons per 1000 sq. ft. Application of a concentrated stream of mulch binder will not be allowed. Other methods of anchoring mulch such as mulch netting shall be used as directed by the Owner's Representative.

3. Areas which cannot be seeded within the growing season shall be temporarily seeded and mulched to provide protection to the soil surface, in accordance with MDEP's publication dated March 2003, Erosion and Sediment Control: Best Management Practices. An organic mulch other than wood fiber alone shall be used along with a mulch netting. The areas will be reseeded with permanent seed as soon as seeding dates and weather conditions permit.

3.3. PREPARATION

- A. Layout: Locations for trees and outlines of planting bed areas shall be staked on the ground by the Contractor and the stakes marked by plant type at least 48 hours before any plant pits or beds are dug. Owner's Representative shall approval all locations of stakes and planting bed outlines prior to installation of plant material.
- B. Preparation for Planting Lawns and Disturbed Areas:
 1. Spread topsoil on prepared areas to a minimum depth of 6 in. and as required to meet lines, grades and elevations shown, after light rolling and natural settlement. Before placing the topsoil, loosen and scarify subgrade of lawn areas to a minimum depth of 6 in. Remove stones over 1-1/2 in. in any dimension and sticks, roots, rubbish and other extraneous matter.
 2. Grade lawn area to smooth, even surface with loose, uniformly fine texture. Roll and rake out all pieces of sod, roots, and grass. Remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.
 3. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.
 4. Restore lawn areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.
- C. Preparation of Unchanged Grades: Where lawns are to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping

operations, prepare soil for lawn planting as follows: till to a depth of not less than 6 in.; apply soil amendments and initial fertilizers as specified; remove high areas and fill in depressions. Till soil to a homogeneous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter. Incorporate solid amendments as specified, at appropriate stages.

- D. Preparation of Planting Beds: Loosen subgrade of planting bed areas to a minimum depth of 6 in. using a cultimulcher or similar equipment. Remove stones over 1-1/2 in. in any dimension, and sticks, stones, rubbish and other extraneous matter. Spread planting soil mixture to the minimum depth required to meet lines, grades and elevations shown, after light rolling and natural settlement.
- E. Excavation for Trees and Shrubs: Excavate pits in accordance with Typical Planting Details with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage. Loosen hard subsoil in bottom of excavation. For B&B trees and shrubs, make excavations at least twice as wide as the ball diameter and a minimum of 1ft 6 in. wider than root spread.

3.4. PLANTING

- A. Planting Trees and Shrubs:
 - 1. Planting shall be done in accordance with Typical Planting Details. Set B&B stock on layer of compacted planting soil mixture, plumb and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades. When set, carefully remove burlap from sides of balls; retain on bottom only if removal is impossible without damage to root balls. Place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3-full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
 - 2. Set container gown stock as specified for B&B stock, removing containers in such a way as to not damage roots.
 - 3. Dish completed planting pits to form shallow (4 in.) saucer to collect water. Mulch pits, trenches and planted areas with at least 4 in. thickness of shredded bark or equivalent substitute approved by Owner's Representative.
 - 4. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage. If deciduous trees or shrubs are moved in full-leaf, spray with anti-desiccant at nursery before moving and again two weeks after planting.

5. Prune, thin out, and shape trees and shrubs in accordance with standard horticultural practice. Remove dead, broken, or diseased branches. Prune trees to retain required height and spread. Unless otherwise directed by the Owner's Representative, do not cut tree leaders, and remove only injured or dead branches from flowering trees, if any. Prune shrubs to retain natural character and accomplish their use in the landscape design. Required shrub sizes are the size after pruning. Remove and replace excessively pruned or misformed stock resulting from improper pruning.
6. Wrap tree trunks of 2 in. caliper and larger. Start at ground and cover trunk to height of first branches and securely attach. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures required before wrapping.
7. Immediately after planting, tie and stake trees of 1-1/2 in. caliper or larger or over 6 ft in height on planting schedule.

B. Sodding New Lawns:

1. General:
 - a. The sod shall be freshly cut by an approved sod cutter in strips of uniform thickness having a minimum width of 12 in. and not less than 18 in. long and transported in an unbroken condition to the area to be sodded. Sod shall be placed in its final position promptly after cutting. Cut sod shall be protected from drying from sun and wind during the time between cutting and placing.
 - b. The areas to be sodded shall be brought to the grades shown on the Drawings allowing for the thickness of the sod. Area to be sodded shall be cleared of large stones, roots, clods and other debris that might interfere with laying sod or subsequent maintenance of the sodded areas. A foundation for the sod shall be constructed and it shall consist of topsoil spread in quantities sufficient to produce after natural settlement has taken place and after tamping, a depth of at least 6 in. Fertilizer and agricultural limestone shall be applied, either before or after laying sod, at a rate of not less than 25 lbs per 1,000 sq ft for agricultural limestone. On hard packed soil the areas under preparation shall be scarified, harrowed, or otherwise loosened to a depth of at least 3 in. before laying sod, unless otherwise directed.

- c. Sod shall be moist when laid and shall be placed on a moist soil bed. The sod shall be placed at right angles to the flow of water, commencing at the lower end and tightly fitted, edge to edge, to provide a uniform surface. Transverse joints shall be staggered. Gaps shall be filled with sod plugs or loam to produce a tight surface. The sod shall be compacted and bonded to the soil with an approved tamper or light roller. After tamping or rolling the sod shall have a smooth, even surface free of humps or depressions.
- d. On slopes steeper than 3;1, sod shall be held securely in place by fastening alternate lines of sod with wooden pegs. The pegs shall not be less than 8 in. in length, and they shall be spaced 3 ft apart and driven flush with the surface of the sod. Other approved methods of fastening sod to slopes may be used where pegging is not practicable.
- e. Water immediately to moisten sod and upper 4 inches of topsoil.

3.5. FERTILIZING TREES AND SHRUBS

A. Water Soluble Fertilizer:

- 1. The first liquid feeding will be permitted as the first watering only during backfilling of the plant, unless otherwise directed by the Owner's Representative. All seedlings will be liquid fed during planting. The second liquid feeding will be made the following spring season, no later than June 30th.
- 2. Liquid fertilizer shall be completely dissolved and mixed in water at a rate of 6 lbs of fertilizer concentrate to 100 gallons of water.
- 3. The resulting solution shall be poured in the plant pit as directed by the Owner's Representative. A second application at the same rate shall be applied as directed by the Owner's Representative. The solution shall be applied at the following rates for each application:

Plants up to 2 ft in height shall receive 4 quarts
Plants above 2 ft and up to 6 ft shall receive 6 quarts
Plants above 6 ft and up to 12 ft shall receive 12 quarts
Plants above 12 ft shall receive 16 quarts

B. Slow-Release Fertilizer Packets:

- 1. All woody plants except evergreen seedlings shall be fertilized with slow release fertilizer packets at the time of planting, unless otherwise

directed by the Owner's Representative. Fertilizer packets shall be placed equidistant within planting pit adjacent to the ball or root mass, but not in direct contact with roots. Placement depth shall be 6 to 8 inches. Packets shall not be cut, ripped, or damaged.

2. If it becomes necessary to remove and replace dead or unhealthy plants, damaged or broken packets shall be replaced with new packets.

The application rates shall be as follows:

Type of Plants	No. of Packets
Evergreen Trees	
Under 18 inches height	1
18 inches to 3 ft height	2
3 ft to 6 ft height	3
Over 6 ft height	4
Deciduous Trees	
Under 6 ft height	2
6 ft to 12 ft height or under 4 in. caliper	3
Over 4 inches caliper	4
Shrubs	
Under 2 ft height or spread	1
2 ft to 3 ft height or spread	2
Over 3 ft height or spread	3
Vines and Ground Covers	1

3.6. WATERING

Thoroughly water all plants after delivery to the sight and immediately after planting. This shall mean full and thorough saturation of all backfill in the pits and beds during the same day of planting. Apply water only by open end hose at a very low pressure to avoid air pockets and injury to the roots. Continue to water all plants and lawns as required to promote healthy growth during the establishment period.

3.7. GUYING

See Typical Planting Details on Drawings for installation requirements. Keep supports in place during entire guarantee period.

3.8. WRAPPING

Wrap trees by overlapping tree wrap tape to 50 percent. Wind from the lowest main branches to the base of the tree. Tie the wrapping at the top and bottom. Wrap within four days after planting and maintain in place for the entire guarantee period.

3.9. PRUNING

After planting, neatly prune all plants to preserve their natural form and character and in a manner appropriate to their requirements. Limit pruning to the minimum necessary to remove injured twigs and branches and to compensate for the loss of roots during transplanting, but never to exceed 1/3 of the branching structure.

3.10. MULCHING

Within two (2) days after planting, mulch all tree pits and planting beds with 4 in. layers of mulching material.

3.11. MAINTENANCE AND ACCEPTANCE

A. Seeded Areas:

1. Maintain seeded areas by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable grass growth, free or eroded or bare areas.
2. Seeding, April 1 to October 15, Inclusive: The Contractor shall maintain each seeded area until acceptance of the individual area. Maintenance shall consist of providing protection by erecting necessary signs and barriers and by repairing damaged areas as directed. Damaged areas and areas which do not produce satisfactory stand of grass shall be repaired to re-establish the condition and grade of the area prior to the original seeding and then refertilized, reseeded and remulched as specified to produce satisfactory results.

Areas fertilized and seeded by the hydraulic method will be accepted only upon attainment of reasonable thick uniform stand of not less than 90 percent coverage of permanent grasses, free from sizable thin or bare spots.

3. Seeding, October 16 to March 31, Inclusive: The Contractor shall maintain each seeded area until acceptance of the individual area. Maintenance shall consist of providing protection by erecting necessary signs and barriers and by repairing damaged areas as directed. Damaged areas shall be repaired by re-establishing the grade

of the area prior to damage and by reapplying mulch. Refertilizing and reseeding will not be required during this period. Necessary maintenance or repairs will not be paid for but shall be considered incidental to the Contract. Areas fertilized, seeded and mulched between October 16 and March 31 will be accepted only upon attainment of a reasonably thick uniform stand of not less than 90 percent coverage of permanent grasses, free from sizable thin or bare spots.

4. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorously growing condition for two cuttings.
5. Immediately reseed areas which show bare spots.

3.12. CLEANUP AND PROTECTION

During landscape work, store materials and equipment where directed. Keep pavements clean and work area in an orderly condition.

Protect landscape work and materials from damage due to landscape operation, operations by other contractors, and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

3.13. RESTORATION

- A. Restore improvements damaged by or removed by this work to original condition, as acceptable to Owners and other parties or authorities having jurisdiction including but not limited to fences, curbs, signs, trees, shrubs, vegetation, poles, posts.

- END OF SECTION -