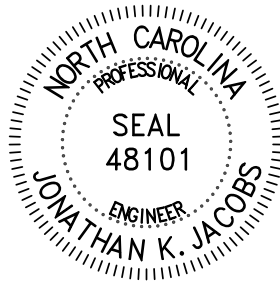


**PROJECT MANUAL
FOR
James Sewer and Street Improvements Project
Town of Apex
Apex, North Carolina**

NOVEMBER 2024



Jonathan K. Jacobs, P.E.



ADVERTISEMENT FOR BIDS

**TOWN OF APEX
APEX, NORTH CAROLINA
JAMES SEWER AND STREET IMPROVEMENTS PROJECT**

Legal Notice

Pursuant to NC General Statutes 143-129 and 143-131, sealed bids will be received by the Town of Apex for the furnishing of all materials and construction of the **James Sewer and Street Improvements Project**.

Sealed Bids for the construction of the **James Sewer and Street Improvements Project** will be received by The Town of Apex until **11:00 AM local time on January 9th**, at which time the Bids received will be publicly opened and read. The Project consists of constructing **885 LF of 8" PVC sewer-line, 38 LF of 8" DIP sewer-line, as well as asphalt pavement and concrete work along James Street.**

Sealed bids should be submitted to the Town of Apex, P.O. Box 250 or 105-B Upchurch Street, Apex, North Carolina 27502, Attn: Matthew Reker and marked "**James Sewer and Street Improvements Project – Bid January 9th – 11:00 AM.**" All bids must be accompanied by a 5% bid bond and shall be subject to the conditions provided in the Instructions to Bidders. Bidders shall submit with their Bids affidavits of "Good Faith Efforts" in the recruitment of Minority Businesses.

Bids will be received for a single prime Contract. Bids shall be on a lump sum and unit price basis, with additive alternate bid items as indicated in the Bid Form.

The Issuing Office for the Bidding Documents is: **Town of Apex Water Resources Department, Attn: Matthew Reker; 105-B Upchurch Street, Apex, NC 27502; 919-249-3324; matthew.reker@apexnc.org.** Prospective Bidders may obtain copies of the Bidding Documents from the Issuing Office as described below.

Bidding Documents also may be examined online at the Town of Apex website and <https://townofapex.idtplans.com/secure/>; and the office of the **Town of Apex Public Works Administration Building located at 105-B Upchurch Street, Apex, NC 27502**, on Mondays through Fridays between the hours of 8 a.m. to 4 p.m.

Bidding Documents may be obtained from the Issuing Office during the hours indicated above. Bidding Documents are available electronically (as portable document format (PDF) files) for free. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.

Interested bidders are encouraged to contact Matthew Reker (matthew.reker@apexnc.org) to be included on the plan holders list in order to receive timely updates and addenda.

Owner: **Town of Apex**

By: **Matthew Reker**

Title: **Utility Engineering Intern**

Date: **October 16th, 2024**

Bidders shall submit documentation of their efforts as well as affidavits of their good faith efforts in the recruitment of small, minority, and women owned businesses.

+ + END OF ADVERTISEMENT FOR BIDS + +

EJCDC® C-111, Suggested Advertisement for Bids for Construction Contracts.

INSTRUCTIONS TO BIDDERS

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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.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – MINORITY PARTICIPATION GOALS

- 3.01 Bidders must make positive efforts to utilize minority businesses. Bidders shall have a goal of ten percent (10%) for participation of minority business enterprises in construction contracts awarded pursuant to NCGS 143-128.2.
- 3.02 Bidder shall be required to submit identification of firms and Affidavits as required in the Bid Form.

ARTICLE 4 – QUALIFICATIONS OF BIDDERS

- 4.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within 5 days of Owner's request, Bidder shall submit written evidence which shall include, but not be limited to, the following:
- A. Official name of Bidder and length of time the organization has been in business under present name.
 - B. Address, phone and fax numbers of main place of business. Address and phone numbers of company office that will manage the Project if different than above.
 - C. Officers of the company. Name and resume of designated project manager and field superintendent. Number of regular employees of the organization.
 - D. Latest financial statement showing assets and liabilities of the company.
 - E. Name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
 - F. Listing of completed projects of similar size and type. Provide name and phone number of project owner representative.
 - G. Existing work commitments.
 - H. List of work to be subcontracted. Name and addresses of subcontractors.
 - I. Names and addresses of major material Suppliers.

- J. Statement that bidder is capable of completing the project within the stated time.
 - K. The apparent Low Bidder shall submit within 72 hours of the Bid Date the following Affidavits:
 - 1. Affidavit C, Portion of the Work to be Performed by Minority Firms.
 - 2. Affidavit D, Good Faith Efforts
- 4.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 4.03 No requirement in this Article 4 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 4.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.
- Bidders will comply with Article(s) 1, 2, & 4 of Chapter 87 the General Statutes of North Carolina. Bidders for this Project must have a General Contractors license with one of the following classifications with a limitation appropriate to the bid amount:
- A. Classifications:
- 1. Unclassified
 - 2. Public Utilities Contractor
 - 3. Public Utilities (Water Lines and Sewer Lines)
- B. Limitations:
- 1. "Limited": Up to \$500,000
 - 2. "Intermediate": Up to \$1,000,000
 - 3. "Unlimited": No limit on contract value"

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:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

- c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
- 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.
- 3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

5.03 Site Visit and Testing by Bidders

- A. Bidder shall conduct the required Site visit during normal working hours, and shall 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. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall 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.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.04 *Owner's Safety Program*

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

5.05 *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

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

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents and any Addenda;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider 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 Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

- H. Obtain and carefully study (or assume responsibility for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
- I. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
- J. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- K. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- L. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 7 – PRE-BID CONFERENCE

- 7.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 8 – INTERPRETATIONS AND ADDENDA

- 8.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 8.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 9 – BID SECURITY

- 9.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the

Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

- 9.02 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 Documents, 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 Documents and furnish the required contract security within 10 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. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 9.03 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 seven days after the Effective Date of the Contract or the end of the Bid holding period, whereupon Bid security furnished by such Bidders will be released.
- 9.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 10 – CONTRACT TIMES

- 10.01 The number of days within which, or the dates by which the Work is to be substantially completed, and completed and ready for final payment, are set forth in the Agreement.

ARTICLE 11 – LIQUIDATED DAMAGES

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

ARTICLE 12 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 12.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 12.02 All prices that Bidder sets forth in its Bid shall 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 13 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 13.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.

- 13.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 13.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for any portions of the Work.
- If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 13.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity 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 7.06 of the General Conditions.

ARTICLE 14 – PREPARATION OF BID

- 14.01 The Bid Form is included with the Bidding Documents.
- A. Bids must be made on the required Bid Form. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall 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."
- 14.02 A Bid by a corporation shall 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 address and state of incorporation shall be shown.
- 14.03 A Bid by a partnership shall 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 partnership's address for receiving notices shall be shown.
- 14.04 A Bid by a limited liability company shall 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 firm's address for receiving notices shall be shown.
- 14.05 A Bid by an individual shall show the Bidder's name and address for receiving notices.
- 14.06 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture's address for receiving notices shall be shown.

- 14.07 All names shall be printed in ink below the signatures.
- 14.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 14.09 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 14.10 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.
- 14.11 Bidder shall complete the form, Identification of Minority Business Participation, identifying the minority businesses that will be utilized on the project with corresponding total dollar value and Affidavit A, Listing of Good Faith Efforts, or Affidavit B, Intent to Perform Contract with own Workforce, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f). Failure to comply with these requirements is grounds for rejection of the bid.

ARTICLE 15 – BASIS OF BID

15.01 Lump Sum

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

15.01 Base Bid with Alternates

- A. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.
- B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form.

15.02 Unit Price

- A. Bidders shall 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.

15.03 Allowances

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 16 – SUBMITTAL OF BID

- 16.01 Bid form is to be completed and submitted with all the attachments outlined in Article 7 of the Bid Form. The complete list of required bid documents can also be found in the attached Bidder's Checklist. The checklist shall be the first page of all bids submitted.
- 16.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall 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 shall 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 shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to:
- Town of Apex
Attention: Matthew Reker
P.O. Box 250
105-B Upchurch Street
Apex, NC 27502-0250
- 16.03 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.
- 16.04 When using the mail or other delivery system, the Bidder is fully responsible for the mail or other delivery system delivering the Bid at the place and prior to the time indicated in the Advertisement for Bid.

ARTICLE 17 – MODIFICATION AND WITHDRAWAL OF BID

- 17.01 A Bid may be withdrawn prior to opening 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.
- 17.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in the paragraph above and submit a new Bid prior to the date and time for the opening of Bids.
- 17.03 After the bid opening, a Bid may only be withdrawn in accordance with N.C.G.S. 143-129.1.

ARTICLE 18 – OPENING OF BIDS

- 18.01 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 19 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 19.01 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 20 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 20.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. 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, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 20.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 20.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not 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.
 - B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
 - C. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of Bids in which that Bidder has an interest.
 - D. In determining the lowest responsible Bidder, Owner shall take into consideration the past performance of Bidder on construction contracts with particular concern given to completion times, quality of work, cooperation with other contractors, and cooperation with owner.
 - E. Owner reserves the right to reject Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the Work described therein.
 - F. Should the Owner adjudge that the apparent low Bidder is not the lowest responsible Bidder by virtue of the above information, said apparent low Bidder will be so notified and its Bid security shall be returned.
- 20.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 20.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.
- 20.06 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 and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.
- 20.07 In determining the responsive Bidder, Owner shall take into consideration bidder's compliance with the requirements of G.S. 143-128.2(c). Failure of the low bidder to furnish affidavit(s) and

documentation as required by the Bid Form for compliance with G.S. 143-128.2(c) may constitute a basis for disqualification of the Bid.

- 20.08 If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder who's Bid, conforming with all the material terms and conditions of the Instruction to Bidders, is lowest, price and other factors considered. If detailed in the bid form, factors such as discounts, transportation costs, and life cycle costs may be used to determine which bidder, if any, is to be offered the award.

ARTICLE 21 – SIGNING OF AGREEMENT

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

ARTICLE 22 – SALES AND USE TAXES

- 22.01 Owner is not exempt from state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall be included in the Bid.

BIDDER'S CHECKLIST

This checklist shall be included as the first page of the submitted bidding documents. As outlined in article 7 of the Bid Form the following items shall be included with the submitted bidding documents:

	-	Properly Executed Bid Form (Including the acknowledgement of all Addenda)
	A.	Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check (circle type of security provided); Bid Bond shall include an executed Power of Attorney.
	B1.	Identification of Minority Business Participation
	B2.	Affidavit A, Listing of Good Faith Efforts; or Affidavit B, Intent to Perform Contract with Own Workforce

BID FORM

Project: _____

Bid From: _____

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

**TOWN OF APEX
P.O. BOX 250, 105-B UPCHURCH STREET
APEX, NC 27502-0250**

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 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. 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 any Site-related

reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. 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.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. 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;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "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;
 - 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 e execution of the Contract.

ARTICLE 5 – BASIS OF BID**[SUGGESTED FORMAT FOR UNIT PRICE BID]**

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	MOBILIZATION	LS	1		
2	GRADING	LS	1		
3	MILLING ASPHALT PAVEMENT, 0-1.5"	SY	122		
4	ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B	TN	27		
5	ASPHALT CONCRETE BASE COURSE, TYPE B 25.0C	TN	103		
6	CONSTRUCTION SURVEYING	LS	1		
7	2'-6" CONCRETE CURB & GUTTER	LF	39		
8	2' CONCRETE VALLEY GUTTER	LF	101		
9	CONCRETE CURB RAMP	EA	1		
10	4" CONCRETE SIDEWALK	SY	87		
11	TRAFFIC CONTROL	LS	1		
12	MATTING FOR EROSION CONTROL	SY	200		
13	SEEDING	LS	1		
14	8" DUCTILE IRON GRAVITY SEWER 8'-10' CUT	LF	38		
15	8" SDR35 PVC GRAVITY SEWER 8'-10' CUT	LF	885		
16	4 FT. DIAMETER FLAT TOP PRECAST CONCRETE MANHOLE 6'-8'	EA	1		
17	4 FT. DIAMETER FLAT TOP PRECAST CONCRETE MANHOLE 8'-10'	EA	1		
18	4 FT. DIMETER FLAT TOP PRECAST CONCRETE MANHOLE 10'-12'	EA	3		

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
19	CONNECT EXISTING SERVICE	EA	2		
20	CONNECT NEW SEWER MAIN TO EXISTING MANHOLE	EA	1		
21	ABANDON EXISTING MANHOLE IN-PLACE	EA	2		
22	FLOWABLE FILL	CY	15		
23	UNDERCUT UNSTABLE PIPE FOUNDATION	CY	150		
24	ROCK EXCAVATION	CY	10		
25	ASPHALT PAVEMENT PATCHING	SY	30		
26	EROSION CONTROL	LS	1		
27	CLEARING & GRUBBING	LS	1		
28	STABILIZED CONSTRUCTION ENTRANCE	EA	1		
Total of All Unit Price Bid Items					\$

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 Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Total of Lump Sum and Unit Price Bids = Total Bid Price \$ _____

Time of Completion

- 5.01 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.
- 5.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 6 – ATTACHMENTS TO THIS BID

- 6.01 The following documents are submitted with and made a condition of this Bid. Failure to provide the documentation with the bid may be grounds for rejection of the bid.:
- A. Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check (circle type of security provided).
 - B. In accordance with GS 143-128.2(c), Bidder shall identify on its bid the minority businesses that it will use on the project and the total dollar value of the bid that will be performed by the minority businesses and list the good faith efforts (Affidavit A) made to solicit participation. A Bidder that will perform all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of the affidavit (A) required above.
 - 1. Identification of Minority Business Participation.
 - 2. Affidavit A, Listing of Good Faith Efforts; or Affidavit B, Intent to Perform Contract with Own Workforce.
 - C. Submit the Bidder's Checklist as provided in the bidding documents with the bid submittal. The Checklist shall be completed and included as the first page of the submittal.
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.: _____ [or] Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - F. Required Bidder Qualification Statement with supporting data; and
- 6.02 After the bid opening the Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low Bidder, the Bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:
- A. An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to

or more than the goal established by the Owner and indicated in the Instruction to Bidders, paragraph Minority Participation Goals. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort; or

- B. Affidavit (D) of its good faith effort to meet the goal. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

6.03 Bidder understands that if this Bid is accepted by the Owner, Bidder shall not substitute for the subcontractors named in the Bid Documents except as allowed in the Supplementary Conditions.

ARTICLE 7 – DEFINED TERMS

7.01 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 8 – BID SUBMITTAL

Contractor's License

- A. Number: _____
B. Classification: _____
C. Limitation: _____

Employer's Tax ID No.: _____

BIDDER: *[Indicate correct name of bidding entity]*

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

This Bid Submitted by:

An Individual

Name: _____
(Type or print)

By: _____
(Individual's Signature)

Doing Business As: _____
(Type or print)

A Partnership

Partnership Name: _____

The Organization and Internal Affairs of the Partnership are governed by the laws of the State of: _____

By: _____
(Signature of general partner, attach evidence of authority to sign)

Name: _____
(Type or print)

Title: _____
(Type or print)

Attest: _____
(Signature of Corporate Secretary)

A Corporation

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Profession, Service, Limited Liability):

By: _____
(Signature, attach evidence of authority to sign)

Name: _____
(Type or print)

Title: _____
(Type or print)

Attest: _____ Corporate Seal
(Signature of Corporate Secretary)

Date of Qualification to do business in North Carolina is _____.

Limited Liability Company – LLC

Name of LLC: _____

Name of State under whose Laws the Limited Liability Company was formed: _____

By: _____
(Signature of Manager)

Name: _____
(Type or print)

Title: _____

(Type or print)

PAGE FOR ATTACHING
POWER OF ATTORNEY
(Bid Bond)

BID BOND

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

Town of Apex
P.O. Box 250, 73 Hunter Street
Apex, NC 27502-0250

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

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

BIDDER

SURETY

(Seal) (Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____ By: _____
Signature Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____ Attest: _____
Signature Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder any difference between the total amount of Bidder's Bid and the total amount of the Bid of the next lowest, responsible Bidder that submitted a responsive Bid as determined by Owner for the work required by the Contract Documents, provided that:

- 1.1 If there is no such next Bidder, and Owner does not abandon the Project, then Bidder and Surety shall pay to Owner the penal sum set forth on the face of this Bond, and
- 1.2 In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.
- 1.3 Recovery under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur 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 shall 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 shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall 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 shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall 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 Registered or Certified Mail, return receipt requested, postage pre-paid, and shall 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 shall 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 shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

do hereby certify that on this project, we will use the following minority business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

MBForms

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- ☐ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ☐ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- ☐ **3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ☐ **5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- ☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☐ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ☐ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

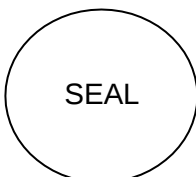
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____
(Name of Bidder)

In lieu of compliance with the Owner's Minority Business Participation Goals, I hereby certify that it is our intent to perform 100% of the work required for the _____ contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

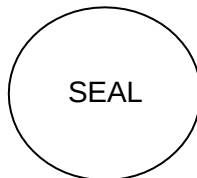
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

NOTICE OF AWARD

Date of Issuance:

Owner: Town of Apex

Owner's Contract No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Bidder:

Bidder's Address:

TO BIDDER:

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 Contract Price of the awarded Contract is: \$ [].

[4] 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. *[revise if multiple copies accompany the Notice of Award]*

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

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

1. Deliver to Owner [4] counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., performance and payment bonds]* and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

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

Within 15 days after you comply with the above conditions, Owner will return to you one fully executed 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 Apex
Authorized Signature

By: _____

Title: _____

Copy: Engineer

Acceptance of Notice

Receipt of the above Notice of Award is hereby acknowledged by _____

this the _____ day of _____, 20__.

By: _____ Title: _____

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

THIS AGREEMENT is by and between Town of Apex ("Owner") and
____ ("Contractor").

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:

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: 885 linear feet of 8-inch PVC gravity sewer line, 38 linear feet of 8-inch Ductile Iron gravity sewer line, asphalt paving and concrete work.

ARTICLE 3 – ENGINEER

- 3.01 The part of the Project that pertains to the Work has been designed by the Town of Apex Water Resources Department. Contractor acknowledges that the Engineer identified in this Article is a department comprised of staff of the Owner and accepts that arrangement and the decision-making and interpretive authority of the Engineer as detailed in the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time 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: Days

- A. The Work will be substantially completed within 120 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 days after the date when the Contract Times commence to run.
- B. Parts of the Work shall be substantially completed on or before the following Milestone(s):
1. N/A

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 times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. 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

1. Substantial Completion: Contractor shall pay Owner \$750 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$750 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
4. Milestones: Contractor shall pay Owner \$750 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved.

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:

- ## ARTICLE 6 – PAYMENT PROCEDURES

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.

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

- a. 95 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

- 7.01 Interest on final payments due to prime contracts shall accrue in accordance with North Carolina General Statute 143-134.1.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. 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 Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of

construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

- F. 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.
- G. 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.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. 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.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 7, inclusive).
 - 2. Performance bond (pages 1 to 3, inclusive).
 - 3. Payment bond (pages 1 to 3, inclusive).
 - 4. Power of Attorney (pages 1 to 1, inclusive).
 - 5. Certificate of Insurance (pages 1 to 1, inclusive).
 - 6. General Conditions (pages 1 to 65, inclusive).
 - 7. Supplementary Conditions _
 - 8. Specifications as listed in the table of contents of the Project Manual.
 - 9. Drawings (not attached but incorporated by reference) consisting of 13 sheets with each sheet bearing the following general title: James Sewer and Street Improvements Project.
 - 10. Addenda (numbers ___ to ___, inclusive).
 - 11. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 1 to 7, inclusive), including E-Verify Affidavit.
 - b. Notice of Award (pages 1 to 1, inclusive).
 - c. Documentation submitted by Contractor prior to Notice of Award.
 - d. Affidavits.
 - 12. 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.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

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

10.03 Successors and Assigns

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

10.04 Severability

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

10.05 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 10.05:
 - 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.

10.06 E-Verify

- A. Contractor hereby acknowledges that “E-Verify” is the federal E-Verify program operated by the US Department of Homeland Security and other federal agencies which is used to verify the work authorization of newly hired employees pursuant to federal law and in accordance with Article 2, Chapter 64 of the North Carolina General Statutes. Contractor further acknowledges that all employers, as defined by Article 2, Chapter 64 of the North Carolina General Statutes, must use E-Verify and after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a). Contractor hereby pledges, attests and warrants through execution of this Agreement that Contractor complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes and further pledges, attests and warrants that any subcontractors currently employed by or subsequently hired by Contractor shall comply with any and all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Agreement.

10.07 Iran Divestment Act Certification

- A. N.C.G.S. 147-86.60 prohibits the State of North Carolina, a North Carolina local government, or any other political subdivision of the State of North Carolina from contracting with any entity that is listed on the Final Divestment List created by the North Carolina State Treasurer pursuant to N.C.G.S. 147-86.58. N.C.G.S. 147-86.59 further requires that contractors with the State, a North Carolina local government, or any other political subdivision of the State of North Carolina must not utilize any subcontractor found on the State Treasurer’s Final Divestment List. As of the date of execution of this Agreement Contractor hereby certifies that it is not listed on the Final Divestment List created by the North Carolina State Treasurer and that Contractor will not utilize any subcontractors found on the Final Divestment List.

10.08 Anti-Human Trafficking

- A. The Contractor warrants and agrees that no labor supplied by the Contractor or the Contractor’s subcontractors in the performance of this Agreement shall be obtained by means of deception, coercion, intimidation or force, or otherwise in violation of North Carolina law, specifically Article 10A, Subchapter 3 of Chapter 14 of the North Carolina General Statutes, Human Trafficking.

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:

Town of Apex

By: _____

By: _____

Title: _____

Title: _____

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

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

P.O. Box 250

Apex, NC 27502-0250

License No.: _____
(where applicable)

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

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

Antwan Morrison, Finance Director

NOTICE TO PROCEED

Owner: Town of Apex

Owner's Contract No.:

Contractor:

Contractor's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Effective Date of Contract:

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [_____, 20__]. [see Paragraph 4.01 of the General Conditions]

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, [the date of Substantial Completion is _____, and the date of readiness for final payment is _____] **or** [the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

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

Owner: Town of Apex

Authorized Signature

By: _____

Title: _____

Date Issued: _____

Copy: Engineer

Acceptance of Notice

Receipt of the Notice of Proceed is hereby acknowledged by _____

this the _____ day of _____, 20__.

By: _____

Title: _____

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

Town of Apex
P.O. Box 250
Apex, NC 27502-0250

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☒ See Paragraph 16

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

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

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall 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 shall 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 shall 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 shall 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 shall 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 shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall 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 shall not be reduced or set off on account of any such unrelated obligations. No right of action shall 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 may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall 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 shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

The language of Paragraph 11 shall be deleted and replaced with the following:

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in Wake County, North Carolina within three (3) years after a declaration of Contractor Default or within three (3) years after the Contractor ceased working or within three (3) 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 period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

Town of Apex
P.O. Box 250
Apex, NC 27502-0250

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☒ See Paragraph 18

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 satisfy 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 shall 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 shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
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;
4. A brief description of the labor, materials, or equipment furnished;
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;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and

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 shall be 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows: **The language of Paragraph 12 shall be deleted and replaced with the following:**

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in Wake County, North Carolina or after the expiration of three (3) years 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 shall be applicable.

PAGE FOR ATTACHING

POWER OF ATTORNEY

PAGE FOR ATTACHING
CERTIFICATE OF INSURANCE

Contractor's Application for Payment No. _____

Application Period:		Application Date:
To (Owner): Town of Apex	From (Contractor):	Via (Engineer):
Project: Irongate Subdivision Waterline Extension	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment

Change Order Summary

Approved Change Orders	1. ORIGINAL CONTRACT PRICE..... \$
Number Additions Deductions	2. Net change by Change Orders..... \$
	3. Current Contract Price (Line 1 ± 2)..... \$
	4. TOTAL COMPLETED AND STORED TO DATE
	(Column F total on Progress Estimates)..... \$
	5. RETAINAGE:
	a. X _____ Work Completed..... \$
	b. X _____ Stored Material..... \$
	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, PLUS RETAINAGE
	(Column G total on Progress Estimates + Line 5.c above)..... \$
TOTALS	
NET CHANGE BY	
CHANGE ORDERS	

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

By:	Date:
-----	-------

Payment of: \$ _____
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____
(Engineer) (Date)

Payment of: \$ _____
(Line 8 or other - attach explanation of the other amount)

is approved by: _____
(Owner) (Date)

Approved by: _____
Funding or Financing Entity (if applicable) (Date)

Progress Estimate - Lump Sum Work

Contractor's Application

[illegible]

Progress Estimate - Unit Price Work

Contractor's Application

[illegible]

Stored Material Summary

Contractor's Application

[illegible]

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: _____

Pay Application #: _____ Period: _____

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

Firm Name	*Minority Category	Payment Amount	Owner Use Only

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

Date: _____

Approved/Certified By: _____

Name

Title

Signature

****THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT****

NORTH CAROLINA SALES TAX AND USE REPORT

(Paid During This Estimate Period)

PAGE ____ of ____

PROJECT _____

_____ COUNTY

ESTIMATE NO. _____

CONTRACTOR _____

PERIOD ENDING _____

DATE	VENDOR NAME	INVOICE NUMBER	INVOICE AMOUNT	TYPE OF PROPERTY	STATE TAX	COUNTY TAX	TOTAL TAX	COUNTY OF SALE*

I certify that the above-listed vendors were paid sales tax upon purchase of building materials during the period covered by the construction estimate, and the property upon which such taxes were paid with or will be used in the performance of this contract. No tax on purchases or rentals of supplies, tools and/or equipment is included in the above list. All of the material above became a part of or is annexed to the building(s) or structure(s) being erected, altered or repaired. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete

Sworn to and subscribed to before me this _____ day of _____, 20____.

Notary Public

My commission expires: _____

Seal

Contractor's Signature

Print or Type Name of Above

*If this is an out-of-state vendor, the County of Sale should be the county to which the merchandise was shipped.

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: Town of Apex
Contractor:
Engineer:
Project:

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

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.

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 shall be as provided in the Contract, except as amended as follows: *[Note: 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.]*

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: *[punch list; others]*

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.

EXECUTED BY ENGINEER: By: _____ (Authorized signature) Title: _____ Date: _____	RECEIVED: By: _____ Owner (Authorized Signature) Title: _____ Date: _____	RECEIVED: By: _____ Contractor (Authorized Signature) Title: _____ Date: _____
--	--	---

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.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



Endorsed by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; 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, or both; 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; or (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. 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), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *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.
22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *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.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *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.
28. *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.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *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.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *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.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *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.

37. *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 furnished by Owner which are designated for the use of Contractor.
38. *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.
39. *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.
40. *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 thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, 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.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.

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

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. 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:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. 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 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean 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, shall mean 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, shall mean 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. 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 Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), 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 executed 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 specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

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

2.04 Preconstruction Conference; Designation of Authorized Representatives

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

2.05 Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall 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.

2.06 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one 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 or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, 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, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Documents 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 Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor 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 shall 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 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 thereunder.
- 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 give written notice to Owner and Contractor 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 editions, 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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 shall 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 shall 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 the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the 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. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall 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 utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. 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.
- E. Paragraph 8.03 governs 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.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times 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.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor 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; 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 7.12, 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 at law; 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 shall 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 known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 - 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.

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 either:
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; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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; or
 - 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 as required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall 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, or both, 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.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 - 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 - 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. 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 in the Contract Documents, or was not shown or indicated 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), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; 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 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. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. 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, or both, then any such adjustment shall 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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. 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 Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, 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.
- 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 or 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 shall obligate 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 shall obligate 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 all of Contractor's obligations under the Contract. These bonds shall 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 Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, 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 shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

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. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) 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 Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

6.05 *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 full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed 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.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- 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 notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* 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 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers 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. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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. None of the above waivers shall extend 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. 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:
 - 1. loss 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 perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner 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.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work 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 any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *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 at all times maintain good discipline and order at the Site.
- B. 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 shall 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.

7.03 *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 shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall 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 shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, 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 material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it 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) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment 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 material or equipment under the circumstances described below. To the extent possible such requests shall 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 material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall 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 that specified, and
 - 3) be suited to the same use as that 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 that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall 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 shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create 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.

7.07 *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 a particular 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 shall be disclosed by Owner 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. 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

7.09 *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.

7.10 *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. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *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.

7.12 *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. 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.
- B. 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. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. 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.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.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).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall 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.

7.13 Safety Representative

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 Hazard Communication Programs

- A. Contractor shall be responsible for coordinating any exchange of 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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified 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
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall 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 submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will 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.D.

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.D.

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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 shall 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.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.

E. *Resubmittal Procedures:*

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 submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper 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.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 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. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. 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 shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall 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.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 Delegation of Professional Design Services

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

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 at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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. 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 to 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.
- C. 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 to Contractor.

- D. 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 shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

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

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (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 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

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

10.05 Shop Drawings, Change Orders and Payments

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 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.

10.07 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.

10.08 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, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by 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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 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 (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not 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, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* 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 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

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

11.02 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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

11.03 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.

11.04 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
 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 11.04.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 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall 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 shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five 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 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 Change Proposals

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall 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.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the 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 11.02, (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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 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 shall be submitted 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; and
 - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, 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, shall 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 shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall 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, who 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 shall 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 for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, 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.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the 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 property insurance established in accordance with Paragraph 6.05), 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 shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall 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 shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. 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.
- 5. 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:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

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

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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 will 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 therewith as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall 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 shall 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 shall 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 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 shall 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, or both, 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 shall 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 rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of 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. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and 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.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. 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, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated 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;
 - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall 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 seven 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 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 6.05 regarding builder's risk or other property insurance.

15.05 Final Inspection

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

15.06 Final Payment

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; 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 Application and Acceptance:*

1. 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 ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. *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.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- 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 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 terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, 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 therefrom.
- B. If 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 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 correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. 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.
- D. 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.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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) ten 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) 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 seven 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 shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate For Convenience

- A. Upon seven 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 on account of loss of anticipated overhead, profits, or revenue, 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 seven 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, seven 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; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination 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 Headings

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS FOR JAMES STREET SEWER PROJECT

**The General Conditions are modified as detailed in SC-1.01 through
SC-18.04**

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01 *Defined Terms*

SC-1.01.A.3. Add the following language to the end of Paragraph 1.01.A.3:

The Application for Payment form to be used on this Project is EJCDC No. C-620. Contractor may use their standard computerized forms for providing detail payment breakdown as an attachment to summary sheet. Owner must approve all Applications for Payment before payment is made.

SC-1.01.A.8. Add the following language to the end of Paragraph 1.01.A.8:

The Change Order form to be used on this Project is EJCDC No. C-941. Owner approval is required before Change Orders are effective.

SC-1.01.A.10. Delete paragraph 1.01.A.10 in its entirety and insert the following in its place:

Claim – A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both as provided for under the terms of this Agreement. A demand for money or services by a third party is not a claim.

SC-1.01.A.20. Add the following language to the end of Paragraph 1.01.A.20:

The Engineer's Consultants on this project are: None

SC-1.01.A.28. Add the following language to the end of Paragraph 1.01.A.28:

The Owner, in its sole discretion, may delegate certain obligations and responsibilities of the Owner in the Contract Documents to the Engineer, including the attendance of meetings and conferences on the Owner's behalf.

A. Include the following definitions:

SC-1.01. Add to the list of definitions in Paragraph 1.01.A by inserting the following as numbered items in their proper alphabetical positions:

Geotechnical Baseline Report (GBR) — The interpretive report prepared by or for Owner regarding subsurface conditions at the Site, and containing specific baseline geotechnical conditions that may be anticipated or relied upon for bidding and contract administration purposes, subject to the controlling provisions of the Contract, including the GBR's own terms. The GBR is a Contract Document.

Geotechnical Data Report (GDR) — The factual report that collects and presents data regarding actual subsurface conditions at or adjacent to the Site, including Technical Data and other geotechnical data, prepared by or for Owner in support of the Geotechnical Baseline Report. The GDR's content may include logs of borings, trenches, and other site investigations, recorded measurements of subsurface water levels, the results of field and laboratory testing, and descriptions of the investigative and testing programs. The GDR does not include an interpretation of the data. If opinions, or interpretive or speculative non-factual comments or statements appear in a document that is labeled a GDR, such opinions, comments, or statements are not operative parts of the GDR and do not have contractual standing. Subject to that exception, the GDR is a Contract Document.

Minority Business — A business in which at least fifty-one percent (51%) is owned by one or more minority persons or socially and economically disadvantaged individuals, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is

owned by one or more minority persons or socially and economically disadvantaged individuals; and

Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.

Minority Person — A person who is a citizen or lawful permanent resident of the United States and who is:

- a. Black, that is, a person having origins in any of the black racial groups in Africa;
- b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
- c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, or the Pacific Islands;
- d. American Indian, that is, a person having origins in any of the original Indian peoples of North America; or
- e. Female.

Socially and Economically Disadvantaged Individual — defined the same as defined in 15 U.S.C. 637; “Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities”. “Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged.”

Notice of Violation — A written notification from a governmental agency that the Owner has violated a law or regulation that the agency has jurisdiction over. Notice will take the form used by the agency and may outline action to be taken by the Owner to correct the violation and may include a monetary fine.

Regular Working Hours — Regular working hours for the project are defined as 8:00 am to 5:00 pm, Eastern Standard Time.

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.01 Delivery of Bonds and Evidence of Insurance

SC-2.01 Delete Paragraphs 2.01 B. and C. in their entirety and insert the following in their place:

- B. Evidence of Contractor’s Insurance:** When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies of insurance (including all endorsements, and identification of applicable self-insured retentions and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. Evidence of Owner’s Insurance:** After receipt from Contractor of the executed counterparts of the Agreement and all required bonds and insurance

documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner under Article 6 (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

SC-2.02 Copies of Documents

SC-2.02.A Delete Paragraph 2.02.A in its entirety and insert the following paragraph in its place:

- A.** Owner shall furnish to Contractor [4] copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.

ARTICLE 3, DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01.B Add the following paragraph 3.01.B.1 to the General Conditions:

- 3.01.B.1** Technical Specifications, Division 1, General Requirements, govern the execution of the work of all sections of the specifications.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.05 Delays in Contractor's Progress

SC-4.05 Add the following new paragraphs immediately after Paragraph 4.05.G:

- H.** Time extension for weather delays due to rain shall only be considered for above average precipitation. NOAA Report No. 20 shall be used to determine the average number of days with precipitation greater than or equal to 0.10 inch for each month. A link to this report is as follows: <http://cdo.ncdc.noaa.gov/climatenormals/clim20/state-pdf/nc.pdf>.
- I.** Claims for additional Contract Time for delays beyond the Contractor's control shall be submitted with the Contractor's monthly pay request in accordance with Article 10 of the General Conditions. Submittal shall include the number of days requested and the reason for the delay. Engineer shall notify the Owner and Contractor of his decision in accordance with Article 10 of the General Conditions. Approval of time shall be indicated by a Change Order.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.01 Availability of Lands

SC-5.01.B Paragraph 5.01.B is hereby deleted in its entirety and replaced as follows:

- 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.

SC-5.02 Use of Site and Other Areas

- SC-5.02.A.2** Paragraph 5.02.A.2 is hereby amended to add "Owner's elected officials" to the list of parties to be indemnified and held harmless.

SC-5.03 Subsurface and Physical Conditions

- SC-5.03** Add the following new subparagraphs C, D, and E immediately after Paragraph 5.03.B:

- C.** The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:
- 1. NONE**

SC-5.05 Underground Facilities

- SC-5.05.A.** The following subparagraphs A.3 through A.7 shall be added after Paragraph 5.05.A.2 as follows:

- A.3** Contractor shall follow the North Carolina General Statutes, Chapter 87, Article 8, Underground Damage Prevention.
- A.4** Contractor shall notify owners of underground facilities prior to start of Work.
- A.5** Contractor shall investigate ahead of the Work to verify the existence of Underground Facilities.
- A.6** Contractor assumes risks associated with, and shall repair damage to, Underground Facilities caused by the Work whether indicated or not in the Contract Documents. Repairs to Underground Facilities shall be done to the satisfaction of the Underground Facility owner and may require material and methods, which are better than the existing Facility. The Owner reserves the right to repair damage caused by the Contractor to its underground Facilities. If the Owner exercises this right, the Owner's cost of this Work shall be deducted from the money due the Contractor.
- A.7** Contractor shall uncover Underground Facilities, with that owner's approval, that are located within the Work as necessary for Engineer to determine the requirements for the change in the work.

SC-5.06 Hazardous Environmental Conditions

- SC-5.06.A.** Add the following new subparagraphs immediately after Paragraph 5.06.A.2:

- A.3** The following reports regarding Hazardous Environmental Conditions at the Site are known to Owner:
- a. NONE**
- A.4** The following drawings regarding Hazardous Environmental Conditions at the Site are known to Owner:
- a. NONE**

SC-5.06.B “elected officials” is hereby added to the list of entities the Contractor may not make any claim against with respect to reliance on the documents outlined in subsections 1, 2, and 3.

SC-5.06.I Delete the content of paragraph 5.06.I in its entirety and replace with “Intentionally Deleted.”

SC-5.07 Add the following paragraph 5.07 immediately after paragraph 5.06:

5.07 Video Inspection of Pre-Construction Site Conditions

- A. The Contractor shall perform video inspections and take photographs of the proposed construction areas before disturbing the site in order to establish an accurate record of the pre-construction conditions for comparison to the final work. The Contractor shall provide the Owner with copies of all video and photographic records at the appropriate times (i.e., pre-construction and post-construction). The cost of video and photographic work shall be incidental to the contract and no separate payment will be made by the Owner.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.01 Performance, Payment, and Other Bonds

6.01.G. Add the new paragraph 6.01.G. immediately after Paragraph 6.01.F:

- G. If requested by the Owner, a Performance and Indemnity Bond shall be posted with the N.C. Division of Highways in the amount as required in the Project Encroachment Contract which shall be provided by the Owner to the Contractor.

SC-6.02 Insurance—General Provisions

6.02 The content of Section 6.02 is hereby deleted in its entirety and replaced as follows:

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 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.

Notwithstanding the foregoing, Contractor may obtain worker’s compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the project is located, (b) is certified or authorized as a worker’s compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker’s compensation insurance for similar projects by the state within the last 12 months.

- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision. Contractor shall provide certificates of insurance naming the Town of Apex as an additional insured by endorsement to the policies. Contractor shall provide notice of cancellation, non-renewal or material change in coverage to the Town of Apex within 10 days of their receipt of notice from the insurance company. Notwithstanding the foregoing or anything else in this Article, neither the requirement of the Contractor to have sufficient insurance nor the requirement that the Town be named an additional insured, shall constitute waiver of the Town's governmental immunity in any respect, under North Carolina law.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.

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Products - Completed Operations Aggregate	\$ <u>1,000,000</u>
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Personal and Advertising Injury \$ 1,000,000

Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:

Each person \$ 2,000,000

Each accident \$ 2,000,000

Property Damage:

Each accident \$ 1,000,000

[or]

Combined Single Limit of \$ 2,000,000

4. Excess or Umbrella Liability:

Per Occurrence \$ 5,000,000

General Aggregate \$ 5,000,000

5. Contractor's Pollution Liability:

Each Occurrence \$ 2,000,000

General Aggregate \$ 4,000,000

☐ Notwithstanding subsection F of this Section 6.03, if box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following: None

7. Contractor's Professional Liability (if applicable):

Each Claim \$ 2,000,000

Annual Aggregate \$ 2,000,000

8. Owner and Engineer shall be named additional insured by endorsements to the General Liability and Automobile Liability policies.

9. The Contractor shall ensure that any subcontractors carry worker's compensation insurance in the statutory minimum amounts, employer's liability insurance (\$1,000,000 minimum), commercial general liability insurance (\$1,000,000 minimum), and commercial automobile liability insurance (\$2,000,000 minimum). Contractor shall ensure that

subcontractor's name the Owner as an additional insured by endorsement to the policies.

SC-6.05 Property Insurance

SC-6.05.A.1 Delete Paragraph 6.05.A.1 and replace as follows:

1. include the Owner, Engineer, and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

SC-6.05.A. Add the following subparagraphs 14-18 to Paragraph 6.05.A, as numbered items shown below:

14. be subject to a deductible amount of no more than \$25,000 for direct physical loss in any one occurrence.
15. include for the benefit of Owner soft cost coverage including, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, plus attorneys fees and engineering or other consultants' fees, if not otherwise covered;
16. include, in addition to the Contract Price amount, the value of the following equipment and materials to be installed by the Contractor but furnished by the Owner or third parties:
 - a. NONE
17. include by express endorsement coverage of damage to Contractor's equipment.
18. name Owner as loss payee by endorsement to the policy.

SC-6.05.A. Add the following language to Paragraph 6.05.A following subparagraph 6.05.A.18:

Notwithstanding anything to the contrary in this Paragraph 6.05.A, if requested by the Owner, or if agreed to by Owner upon Contractor's request, rather than providing the above referenced Builder's Risk insurance, Contractor may provide and maintain installation floater insurance for property under the care, custody, or control of Contractor. The installation floater insurance shall be a broad form or "all risk" policy providing coverage for all materials, supplies, machinery, fixtures, and equipment that will be incorporated into the Work. Coverage under the Contractor's installation floater will include:

1. any loss to property while in transit,
2. any loss at the Site, and
3. any loss while in storage, both on-site and off-site.

Coverage cannot be contingent on an external cause or risk, or limited to property for which the Contractor is legally liable. The Contractor will be solely responsible for any deductible carried under this coverage and claims on materials, supplies, machinery, fixture, and equipment that will be incorporated into the Work while in transit or in storage. This policy will include a waiver of subrogation applicable to Owner,

Contractor, Engineer, all Subcontractors, and the officers, elected officials, directors, partners, employees, agents and other consultants and subcontractors of any of them. The Owner shall be named as an insured in the policy.

SC 6.05. Add the following subparagraph 6.05.G after subparagraph 6.05.F.

6.05.G. Insurance policies provided under 6.05 shall include flood insurance acceptable to Owner for all Work below 100-year flood elevation as reported by FEMA.

SC-6.06 Waiver of Rights

SC 6.06.B.1 Delete subparagraph 6.06.B.1 in its entirety and relabel subparagraph 6.06.B.2 as subparagraph 6.06.B.1.

SC 6.06.C Delete subparagraph 6.06.C in its entirety.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.02 Labor; Working Hours

SC-7.02.B. Add the following new subparagraphs (1) and (2) to Paragraph 7.02.B:

- 1.** Regular working hours will be 8:00 a.m. through 5:00 p.m
- 2.** Owner's legal holidays are New Year’s Day, Martin Luther King, Jr. Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving, Day after Thanksgiving, Christmas Eve, Christmas Day, and the Day after Christmas.

SC-7.02.C. Add the following new paragraph 7.02.C immediately after Paragraph 7.02.B:

Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer’s services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

- 1.** For purposes of administering the foregoing requirement, additional overtime costs are defined as more than 10 hours in a work day or 40 hours in a work week, Monday through Friday excluding holidays, or on the weekends. Contractor shall submit a written request to the Engineer five (5) working days prior to the scheduled work. Contractor shall pay for overtime work at a minimum rate of \$75 / hour.
- 2.** The above will not prevent the Contractor from working outside the above time that will not require the inspector to be present. Such work may include; start up, clean up, seeding, painting (after the base surface has been approved by the inspector), and similar items. Contractor shall obtain approval of Work to be performed outside of the above work hours.
- 3.** Contractor shall not be charged for inspector’s time for Work specifically identified by the Contract Documents to be performed outside the above Work

time or on weekends.

SC-7.06.D. Add the following subparagraphs (1) and (2) to Paragraph 7.06.D:

- 1. Bidder shall indicate Minority Business Participation on the attachment to the Bid Forms. Low Bidder shall be required to submit the following Affidavits as attached to the end of this section:**
 - a. Affidavit C, Portion of the Work to be Performed by Minority Firms.**
 - b. Affidavit D, Good Faith Efforts**
- 2. Contractor whose Bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the Bid, except:**
 - a. If the listed subcontractor's bid is later determined by the Contractor to be non-responsible or non-responsive, or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work; or**
 - b. With the approval of the awarding authority for good cause shown by the Contractor.**

SC-7.06.P. Add the following new paragraph immediately after Paragraph 7.06.O:

- P. The Contractor shall not award work valued at more than fifty percent (50%) of the Contract Price to Subcontractor(s), without prior written approval of the Owner.**

SC-7.07.B Delete Paragraph 7.07.B and 7.07.C in their entirety and replace with paragraph 7.07.B as follows:

- B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, elected officials, 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 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.**

SC-7.08.B. Add the following new paragraph 7.08.B immediately after Paragraph 7.08.A:

- B. The Owner shall obtain and pay for the following permits (if required):**
- 1. TOA Water Permit**
 - 2. NCDEQ Erosion Control Permit**
 - 3. NCDOT Encroachment Agreement**

These permits are made part of this Contract and attached to the end of this Section. This paragraph does not relieve Contractor of his responsibility to comply with applicable Laws and Regulations as stated in Paragraph 7.10.C.

SC-7.10.C Add the following new paragraphs D through H immediately after Paragraph 7.10.C:

- D. Contractor shall be responsible for conforming to the requirements of the approved sedimentation control plan, the rules and regulations of the Erosion Control Laws of the State of North Carolina, specifically the Sedimentation**

Pollution Control Act of 1973 (G.S. 113A) as amended, and the local jurisdiction where the project is located as it relates to land disturbing activities undertaken by Contractor. Contractor shall be responsible to Owner for any fines imposed on Owner as a result of Contractor's failure to comply with the above as it is further described in the Erosion Control Section of the Specifications.

- E. Contractor shall be responsible for conforming to the requirements (including associated construction costs) of the N.C. Department of Transportation Encroachment Agreement and all other local, state, and federal permits associated with the project.
- F. Should the Contractor cause the Owner to receive a Notice of Violation from a governmental agency, Contractor shall pay costs associated with Notice of Violation within ten (10) days of receipt of written notification. Costs shall include, but not be limited to:
 - 1. Fines imposed on the Owner by the agency.
 - 2. Required legal newspaper publications concerning violation.
 - 3. Required mailings to customers concerning notification of violation.
 - 4. Administrative, engineering, and construction costs associated with resolving the Notice of Violation.
- G. Notice of Violation may include, but not be limited to, the following problems:
 - 1. Sewage spill.
 - 2. Inadequate erosion control measures.
 - 3. Equipment failure during the warranty period.
- H. In the event of a sewage spill during construction, Contractor shall take the following steps as a minimum:
 - 1. Take immediate action to contain the spill.
 - 2. Notify the Owner and Engineer within 30 minutes of realizing a spill has occurred.
 - 3. Clean up the spill as directed by the Owner. Contractor shall bare all costs associated with cleanup.

SC-7.11.B Add the following new paragraph 7.11.B immediately after Paragraph 7.11.A:

- B. Record Documents shall be updated daily. Should the Engineer determine that the Record Drawings are not being properly maintained, approval for future payment requests shall be withheld.

SC-7.18 Indemnification

SC-7.18. Paragraphs 7.18.A and 7.18.B are hereby modified as follows while Paragraph 7.18.C is deleted in its entirety:

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, elected officials, 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer or any of their officers, elected officials, 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 shall 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.

ARTICLE 8 – OTHER WORK AT THE SITE

SC-8.01 Other Work

SC-8.01. Add the following new paragraph 8.01.E immediately after Paragraph 8.01.D:

- E. The prime contracts will be let in connection with the Project as outlined in the Summary of Work in the Specifications.

SC-8.02 Coordination

SC-8.02.A Delete Paragraphs 8.02.A and 8.02.B in their entirety and replace with the following:

- A. The Contractor shall coordinate work with the other prime contractors and subcontractors on the Site to ensure a safe, efficient working environment. Coordination may include, but is not limited to, scheduling delivery of materials, storage of materials, sequencing of construction involving different crafts, resolving interface issues between crafts, scheduling testing, and all other aspects of the Work that do not impact the design or function of the Work.

SC-8.03 Legal Relationships

SC-8.03. Add the following new subparagraph E immediately after Paragraph 8.03.D:

- E. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Time shall be Contractor's exclusive remedy with respect to Owner, Engineer, and construction coordinator for any delay, disruption, interference, or hindrance caused by any other contractor.

This paragraph does not prevent recovery from Owner, Engineer, or construction coordinator for activities that are their respective responsibilities.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

SC-11.05 Change of Contract Times

SC 11.05.C. Add the following new subparagraph 11.05.C after Paragraph 11.05.B.

- C. Time Extension: Contract time extensions for weather delays do not entitle Contractor to “extended overhead” recovery.**

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

SC-13.01 Cost of the Work

SC 13.01.B.5.c Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

- c. Construction Equipment and Machinery:**
- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.**
 - 2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the Rental Rate Blue Book (latest edition). An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include 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, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than \$1,000 will be considered small tools.**

SC-13.03 Unit Price Work

SC 13.03.E Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:**
- 1. if the extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and**
 - 2. if there is no corresponding adjustment with respect to any other item of Work; and**
 - 3. if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.**

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC – 14.06 Owner May Stop the Work

SC 14.06.B. Add the following subparagraph B to Paragraph 14.06:

- B. 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 14.06.**

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01 Progress Payments

SC 15.01.B Add the following new subparagraphs (4) and (5) to Paragraph 15.01.B:

- 4. No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.**
- 5. The Application for Payment form to be used on the project is EJCDC No. C-620. The Engineer must approve all Applications for Payment before payment is made.**

SC 15.01.D Delete Paragraph 15.01.D.1 in its entirety and is replaced as follows:

- 1. The Application for Payment with Engineer's recommendations will be presented to the Owner for consideration. If the Owner finds the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 15.01 will become due 30 days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.**

SC-15.03 Substantial Completion

SC 15.03.B Add the following new subparagraph (1) to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

SC-17.01 Delete Paragraph 17.01.B in its entirety and replace it with the following:

- B. Disputes shall be resolved in accordance with the dispute resolution process adopted on February 26, 2002 by the N. C. State Building Commission. The “Rules Implementing Mediated Settlement Conferences in North Carolina Construction Projects” are attached to this section.

SC-17.01 Add the following new subparagraph C after Paragraph 17.01.B:

- C. All parties agree that only the North Carolina courts shall have jurisdiction over the Contract and any controversies arising out of this Contract and this agreement shall be governed by and construed in accordance with the laws of the State of North Carolina. Mediation as provided for under this Article shall not be a condition precedent to litigation.

SC-17.02 Attorneys’ Fees

SC-17.02 Add the following new Section 17.02 immediately after Paragraph 17.01 as follows:

SC-17.02 Attorneys’ Fees

- A. For any matter subject to final resolution under this Article, to the extent permitted by law, 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, taking into account the parties’ initial demand or defense positions in comparison with the final result.

ARTICLE 18 – MISCELLANEOUS

SC-18.04 Delete subparagraph 18.04.A in its entirety and replace as follows:

- 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, elected officials, 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.

RESERVED FOR
CDBG COMPLIANCE REQUIREMENTS
(if applicable)

SUPPLEMENTARY GENERAL CONDITIONS CDBG COMPLIANCE REQUIREMENTS

Contract Provisions

- 1. Conflict of Interest of Members, Officers, or Employees of the Local Governing Body, or other Public Officials Provision**
- 2. Legal Remedies Provision**
- 3. Termination Provision**
- 4. Nondiscrimination Clause, Section 109**
- 5. Age Discrimination Clause**
- 6. Section 504- Disability Discrimination Clause**
- 7. Executive Order 11246 Clause**
- 8. Section 3 Clause**
- 9. Copeland "Anti-Kickback" Act Provision**
- 10. Davis-Bacon Act Provision**
- 11. Contract Work Hours and Safety Standards Act Provision**
- 12. Access to Records and Record Retainage Clause**
- 13. Clean Water, Clean Air, E.O. 11738 and EPA Regulations Provision**
- 14. Lead-Based Paint Clause**
- 15. Lobbying Clause**
- 16. Rights to Inventions Clause**
- 17. Debarment and Suspension**
- 18. Certification of Eligibility**

Attachments

- 1. Equal Employment Opportunity Certification-Contractor**
- 2. Equal Employment Opportunity Certification-Subcontractor**
- 3. Section 3 Certification-Contractor**
- 4. Section 3 Certification-Subcontractor**
- 5. Section 3 Affirmative Action Plan**
- 6. Federal Labor Standards Provisions-HUD Form 4010**
- 7. Wage Decision(s)**
- 8. Labor Standards Certification-Contractor**
- 9. Labor Standards Certification-Subcontractor**
- 10. Payroll Supervisor Certification**
- 11. Anti-Lobbying Certification**

CDBG CONTRACT PROVISIONS

1. Conflict of Interest (2 CFR Part §200.318 General procurement standards): Interest of Members, Officers, or Employees of the Recipient, Members of Local Governing Body, or Other Public Officials

No member, officer, or employee of the recipient, or its agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure or for one year thereafter, shall have any financial interest, either direct or indirect, in any contract or subcontract, or the proceeds under this agreement. Immediate family members of said members, officers, employees, and officials are similarly barred from having any financial interest in the program. The recipient shall incorporate, or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purpose of this section.

2. Legal Remedies Provision

As stated in 24 CFR Part 85.36 (2 CFR Appendix II to Part 200—Contract Provisions for Non- Federal Entity Contracts Under Federal Awards)

All construction contracts shall contain provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms and provide for such sanctions and penalties as may be appropriate. The Contractor is referred to the General Conditions of these Contract Documents, which contain detailed provisions concerning breach of contract and remedies for breach of contract.

3. Termination Provision

As stated in 24 CFR Part 85.36 (2 CFR Appendix II to Part 200—Contract Provisions for Non- Federal Entity Contracts Under Federal Awards)

All construction contracts in excess of \$10,000 shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor. The Contractor is referred to the General Conditions of these Contract Documents, which contain detailed provisions concerning termination of the contract.

4. Nondiscrimination Clause - Section 109, Housing and Community Development Act of 1974

No person in the United States shall on the ground of race, color, national origin or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds available under this title.

5. Age Discrimination Act of 1975, as amended - Nondiscrimination on the Basis of Age

No qualified person shall on the basis of age be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal Financial assistance.

6. Section 504 of the Rehabilitation Act of 1973, as amended - Nondiscrimination on the Basis of Disability

No qualified disabled person shall, on the basis of disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal Financial assistance.

7. Executive Order 11246 Clause

Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity

clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advisor the labor union or workers' representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- (6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1964, and such other sanctions may be imposed and remedied involved as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The contractor will include the provisions of paragraph (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance; Provided, however, That in the event the contract becomes involved in, or threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Contractors and subcontractors are required to submit Equal Opportunity Certification Forms (See Attachments 1 and 2).

8. Section 3 Clause- Compliance in the Provision of Training, Employment, and Business Opportunities (24 CFR 135.38)

All Section 3 covered contracts shall include the following clause (referred to as the Section 3 clause):

- A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.
- F. Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

Contractors and subcontractors are required to submit Section 3 Certification Forms (See Attachments 3 and 4) and Section 3 Plans with Tables A-D (See Attachment 5).

9. Copeland "Anti-Kickback" Act Provision

All construction contracts shall include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874; 40 U.S.C. 3145) as supplemented in Department of Labor regulations (29 CFR, Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). This Act provides that each contractor and subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The grantee shall report all suspected or reported violations to the grantor agency.

Specific contract requirements concerning this provision are included in the Federal Labor Standards Provisions-HUD Form 4010, included as Attachment 6 to this section of the Contract Documents, and which form a portion of these Contract Documents and the executed contract between the grantee and Contractor.

10. Davis-Bacon Act Provision, as amended, (40 U.S.C. 3141-3148)

When required by Federal program legislation, all construction contracts, in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors and subcontractors must be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, contractors and subcontractors shall be required to pay wages not less often than once a week. A copy of the current prevailing wage determination issued by the Department of Labor must be placed in each solicitation. The grantee shall report all suspected or reported violations to the grantor agency.

Specific contract requirements concerning this provision are included in the Federal Labor Standards Provisions-HUD Form 4010, included as Attachment 6 to this section of the Contract Documents, and which form a portion of these Contract Documents and the executed contract between the grantee and Contractor. A copy of the current prevailing wage determination(s) issued by the Department of Labor is included as Attachment 7 to this section of the Contract Documents and the award of a contract or subcontract shall be conditioned upon acceptance of the wage determination(s). Contractors and subcontractors are required to submit Labor Standards Certification Forms (See Attachments 8 and 9).

11. Contract Work Hours and Safety Standards Act Provision (40 U.S.C. 3701-3708)

Contracts awarded in excess of \$100,000 which involve the employment of mechanics or laborers shall comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708) as supplemented by Department of Labor Regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction").

Under 40 U.S.C. 3702 of the Act, the Contractor and any of his subcontractors shall be required to compute the wages of every mechanic and laborer on the basis of standard work week of forty hours. Work in excess of the standard work week is permissible, provided the worker is compensated at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in any work week.

The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to his health and safety, as determined under construction, safety and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Specific contract requirements concerning this provision are included in the Federal Labor Standards Provisions-HUD Form 4010, included as Attachment 6 to this section of the Contract

Documents, and which form a portion of these Contract Documents and the executed contract between the grantee and Contractor.

12. Access to Records and Record Retainage Clause

In general, all official project records and documents must be maintained during the operation of this project and for a period of three years following close out in compliance with 24 CFR 570.490. The grantee, the North Carolina Department of the Treasurer, U. S. Department of Housing and Urban Development, and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Administering Agency which are pertinent to the execution of this Agreement, for the purpose of making audits, examinations, excerpts and transcriptions in compliance with the above Rule.

13. Clean Water, Clean Air, E.O. 11738 and EPA Regulations Provision

Compliance with Air and Water Acts: Contracts and subcontracts of amounts in excess of \$150,000 are subject to the requirements of the Clean Air Act, as amended, (42 U.S.C. 7401-7671q.), the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251-1387 and the regulations of the Environmental Protection Agency (EPA) with respect thereto, as amended. Violations must be reported to the Federal awarding agency and the Regional Office of the EPA.

The Contractor and any of its subcontractors for work funded under this Agreement which is in excess of \$150,000, agree to the following requirements:

- (1) A stipulation by the contractor or subcontractors that any facility to be utilized in the performance of any nonexempt contract or subcontract is not listed on the List of Violating Facilities issued by the EPA.
- (2) Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 U.S.C. 7401-7671q) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1254) relating to inspection, monitoring, entry, reports, and information, and all regulations and guidelines issued there under.
- (3) A stipulation that as a condition for the award of the contract prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized or to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
- (4) Agreement by the Contractor that he will include or cause to be included the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the contractor will take such action as the Government may direct as a means of enforcing such provisions.

In no event shall any amount of the assistance provided under this Agreement be utilized with respect to a facility which has given rise to a conviction under Section 113(c) (1) of the Clean Air Act or Section 309(c) of the Federal Water Pollution Control Act.

14. Lead-Based Paint Clause

The Contractor is hereby specifically made aware of the lead-based paint regulations, (42 U.S.C. 4831; 24 CFR Part 570.608, and 24 CFR Part 35, as amended), which are applicable to the construction or rehabilitation of residential structures. To the extent that the subject matter of this contract involves residential structures, the Contractor will comply with the lead-based paint regulations.

15. Lobbying Clause

As required by 31 U.S.C. Section 1352, Byrd Anti-Lobbying Amendment, Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a

member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any federal grant, the making of any Federal loan, the entering into of any cooperative, agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U. S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. Rights to Inventions Made Under a Contract or Agreement

If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or sub-recipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or sub-recipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

17. Debarment and Suspension (Executive Orders 12549 and 12689)

A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

18. Certification of Eligibility

By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 29 CFR 5.12(a)(1) or to participate in HUD programs pursuant to 24 CFR Part 24 or, if applicable, by virtue of Section 3(a) of the Davis-Bacon Act. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 29 CFR 5.12(a)(1) or to participate in HUD programs pursuant to 24 CFR Part 24 or, if applicable, by virtue of Section 3(a) of the Davis-Bacon Act. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001 and 18 U.S.C. 1010.

CERTIFICATION OF ELIGIBILITY

This form must be attached and made a part of all contracts obligated by grantees and paid with CDBG funds.

Grantee: _____

Grant Number: _____

Project Name: _____

By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 29 CFR 5.12(a)(1) or to participate in HUD programs pursuant to 24 CFR Part 24 or, if applicable, by virtue of Section 3(a) of the Davis- Bacon Act. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 29 CFR 5.12(a)(1) or to participate in HUD programs pursuant to 24 CFR Part 24 or, if applicable, by virtue of Section 3(a) of the Davis- Bacon Act. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001 and 18 U.S.C. 1010.

(Signature)

(Name of Contractor)

(Printed Name and Title)

(Street Address or P. O. Box)

(Date)

(City, State, Zip Code)

DUNS, Tax Identification or Social Security Number

FOR GRANTEE USE ONLY

The Federal List of Parties Excluded from Federal Procurement or Non-procurement Programs and State of North Carolina Debarred Vendors List have been checked and the above contractor or subcontractor has been determined to be eligible to participate in a CDBG assisted project.

(Signature of Verifying Officer)

(Title)

(Date)

U. S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT	
CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY	
INSTRUCTIONS	
This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause: and, if so, whether it has filed all compliance reports due under applicable instructions. Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.	
CERTIFICATION BY BIDDER	
NAME AND ADDRESS OF BIDDER (include ZIP Code)	
1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. _____Yes _____No	
2. Compliance reports were required to be filed in connection with such contract or subcontract. _____Yes _____No	
3. Bidder has filed all compliance reports due under applicable instructions, including SF-100. _____Yes _____No _____None Required	
4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended? _____Yes _____No	
NAME AND TITLE OF SIGNER (Please type)	
SIGNATURE	DATE

Replaces Form HUD 4238.CD-1, which is Obsolete

HUD 950.1 (11-78)

U. S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT CERTIFICATION BY PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY	
NAME OF PRIME CONTRACTOR	PROJECT NUMBER
INSTRUCTIONS This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause: and, if so, whether it has filed all compliance reports due under applicable instructions. Where the certification indicates that the subcontractor has not filed a compliance report due under applicable instructions, such subcontractor shall be required to submit a compliance report before the owner approves the subcontract or permits work to begin under the subcontract.	
CERTIFICATION BY SUBCONTRACTOR	
NAME AND ADDRESS OF SUBCONTRACTOR (include ZIP Code)	
1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. _____Yes _____No	
2. Compliance reports were required to be filed in connection with such contract or subcontract. _____Yes _____No	
3. Bidder has filed all compliance reports due under applicable instructions, including SF-100. _____Yes _____No _____None Required	
4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended? _____Yes _____No	
NAME AND TITLE OF SIGNER (Please type)	
SIGNATURE	DATE

Replaces Form HUD 4238.CD-2, which is Obsolete

HUD 950.2 (11-78)

**CERTIFICATION OF BIDDER REGARDING SECTION 3
AND SEGREGATED FACILITIES**

Name of Prime Contractor

Project Name & Number

The undersigned hereby certifies that

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

Name & Title of Signer (Print or Type)

Signature

Date

**CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING
SECTION 3 AND SEGREGATED FACILITIES**

Name of Subcontractor

Project Name & Number

The undersigned hereby certifies that

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

Name & Title of Signer (Print or Type)

Signature

Date

SECTION 3 AFFIRMATIVE ACTION PLAN

_____ agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within the project area.

- A. To ascertain from the locality's CDBG program official the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.
- B. To attempt to recruit from within the project area the necessary number of lower income residents through: Local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.
- C. To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
- D. To insert this Section 3 plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 affirmative action plan including utilization goals and the specific steps planned to accomplish these goals.
- E. To insure that subcontracts which are typically let on a negotiated rather than a bid basis in areas other than Section 3 covered project areas are also let on a negotiated basis, whenever feasible, when let in a Section 3 covered project area.
- F. To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.
- G. To insure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.
- H. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.
- I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this Section 3 plan.
- J. To list on Table A information related to subcontracts to be awarded.
- K. To list on Table B, all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

- L. If successful bidder, to submit prior to final payment, Tables C and D to grantee which includes all applicable hires and subcontractors utilized on this project.

As officers and representatives of _____
(Name of Contractor)

We the undersigned have read and fully agree to this Affirmative Action Plan, and become a party to the full implementation of this program.

Signature

Title

Date

Signature

Title

Date

TABLE A- BIDDER'S PROPOSED SUBCONTRACTS BREAKDOWN

FOR THE PERIOD COVERING _____, 20__ through _____, 20__.
(Duration of the CDBG-Assisted Project)

Type of Contract (Business or Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts To Section 3* Businesses	Estimated Dollar Amount To Section 3* Businesses

**A Section 3 Business Concern is a business that is 1) 51% or more owned by Section 3 Residents, or 2) a business whose permanent full-time workforce is at least 30% Section 3 residents, or 3) a business which contracts a dollar amount of all subcontracts with businesses as defined in numbers 1 and 2.*

Company

Project Name

Project Number

EEO Officer (Signature)

Date

TABLE B- BIDDER'S ESTIMATED PROJECT WORKFORCE BREAKDOWN

Job Category	Total Estimate Positions Needed for Project	# Positions Currently Occupied By Permanent Employees	# Positions Not Currently Occupied	# Positions To Be Filled By Section 3* Residents
OFFICERS/ SUPERVISORS				
PROFESSIONALS				
TECHNICIANS				
HOUSING SALES/ RENTAL/MANAGEMENT				
OFFICE CLERICAL				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TOTAL				
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**A Section 3 Resident is an individual in a public housing project or within a non-metropolitan county in which the project is located and whose income does not exceed 80% of the higher of the median income adjusted by family size, for the county of residence for the non-metropolitan area of the state.*

Company

Project Name

Project Number

EEO Officer (Signature)

Date

TABLE C- CONTRACTOR'S SECTION 3 NEW HIRES REPORT

Job Category	Total Estimate Positions Needed for Project	# Positions Currently Occupied By Permanent Employees	# Positions Not Currently Occupied	# Positions Filled By Section 3* Residents
OFFICERS/ SUPERVISORS				
PROFESSIONALS				
TECHNICIANS				
HOUSING SALES/ RENTAL/MANAGEMENT				
OFFICE CLERICAL				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TRADE:

JOURNEYMAN				
APPRENTICES				
MAXIMUM # TRAINEES				
OTHERS				

TOTAL				
-------	--	--	--	--

**A Section 3 Resident is an individual in a public housing project or within a non-metropolitan county in which the project is located and whose income does not exceed 80% of the higher of the median income adjusted by family size, for the county of residence for the non-metropolitan area of the state.*

Company

Project Name

Project Number

EEO Officer (Signature)

Date

8/2016

TABLE D- CONTRACTOR'S SECTION 3 BUSINESS UTILIZATION REPORT

Project Number:		Total Dollar Amount of Contract	\$ _____
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Name of Prime Contractor:		Address:		Federal Identification No:	
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Name of Subcontractor	Sect. 3 Bsns. *	Address and Phone #	Trade/ Service or Supply	Contract Amount	Award Date	Competitive or Negotiated Bid	Federal Identification No.

** Check if a Section 3 Business Concern.*

TOTAL DOLLAR AMOUNT AWARDED TO SECTION 3 BUSINESSES:	\$ _____
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Section 3 Business Concern

1. A business that is 51% or more owned by section 3 residents, or
2. A business whose permanent full time work force is at least 30% section 3 residents or,
3. A business which contracts a dollar amount of all subcontracts with businesses as defined in numbers 1 and 2 above.

8/2016

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i). Minimum Wages. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conforming under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii). (a). Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1). The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2). The classification is utilized in the area by the construction industry; and

(3). The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b). If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of

the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215- 0140.)

(c). In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d). The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

(iv). If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full

amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i). Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonable anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices and trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii). (a). The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029- 005-00014-1), U.S. Government Printing Office, Washington, DC. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b). Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1). That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5 (a)(3)(i) and that such information is correct and complete;

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

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

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

(d). The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

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

4. Apprentices and Trainees.

(i). Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the

contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii). Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level or progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeymen wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by referenced in this contract.

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputed concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i). Certification of Eligibility. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act of 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii). No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii). The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of...influencing in any way the action of such Administration...makes, utters or publishes any statement, knowing the same to be false...shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract work Hours and Safety Standards Act. The provisions of this paragraph B are applicable only where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

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

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the

unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

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

(4) **Subcontracts.** The contractor or subcontractor shall insert any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable only where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act 40 USC 3701 et seq.

(3) The Contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions

WAGE DECISION(S)

General Decision Number: NC190075 01/04/2019 NC75

Superseded General Decision Number: NC20180075

State: North Carolina

Construction Type: Heavy

County: Wake County in North Carolina.

HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

SUNC2011-056 08/26/2011

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 13.98	0.69
ELECTRICIAN.....	\$ 15.41	3.13
LABORER: Common or General.....	\$ 9.84	2.90
LABORER: Pipelayer.....	\$ 13.05	2.56

OPERATOR:		
Backhoe/Excavator/Trackhoe.....	\$ 16.16	3.18
OPERATOR: Bulldozer.....	\$ 14.63	0.00
OPERATOR: Loader.....	\$ 15.13	2.79
TRUCK DRIVER.....	\$ 13.12	1.89

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination

- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

**COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
CONTRACTOR'S CERTIFICATION
CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS**

TO (Appropriate Recipient):	Date:
C/O:	Project Number (if any):
	Project Name:

1. The undersigned, having executed a contract with _____ for the construction of the above-identified project, acknowledges that:

- (a) The Labor Standards provisions are included in the aforesaid contract:
- (b) Correction of any infractions of the aforesaid conditions, including infractions by any of his subcontractors and any lower tier subcontractors, is his responsibility.

2. He certifies that:

- (a) Neither he nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United State pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to the Davis-Bacon Act, as amended (40 U.S.C. 3141-3148).
- (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of aforementioned regulatory or statutory provisions.

3. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. He certifies that:

- (a) The legal name and the business address of the undersigned are:

(b) The undersigned is:	
(1) A Single Proprietorship	(3) A Corporation Organized in the State of
(2) A Partnership	(4) Other Organization (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned area:		
Name	Title	Address

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(d) The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):

Name	Address	Nature of Interest

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are (if none, so state):

Name	Address	Trade Classification

Contractor

Typed Name and Title

Date

Signature

WARNING

U.S. Criminal Code Section 1010, Title 18, U.S.C., provides in part: "Whoever . . . makes, passes, utters, or publishes any statement, knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

**COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
SUBCONTRACTOR'S CERTIFICATION
CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS**

TO (Appropriate Recipient):	Date:
C/O:	Project Number (if any):
	Project Name:

1. The undersigned, having executed a contract with (Contractor or Subcontractor) _____
 _____ for _____ (Nature of Work)
 _____ in the amount of
 \$_____ for the construction of the above-identified project, certifies that:

- (a) The Labor Standards Provisions of the Contract for Construction are included in the aforesaid contract:
- (b) Neither he nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United State pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to the Davis-Bacon Act, as amended (40 U.S.C. 3141-3148).
- (c) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to the aforesaid regulatory or statutory provisions.

2. He agrees to obtain and forward to the contractor, for transmittal to the recipient, within ten days after the execution of any subcontract, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements, executed by the lower tier subcontractor, in duplicate.

- (a) The workmen will report for duty on or about (Date)_____.

3. He certifies that:

- (a) The legal name and the business address of the undersigned are:

(b) The undersigned is:	
(1) A Single Proprietorship	(3) A Corporation Organized in the State of
(2) A Partnership	(4) Other Organization (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned area:		
Name	Title	Address

--	--	--

(d) The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):

Name	Address	Nature of Interest

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are (if none, so state):

Name	Address	Trade Classification

Subcontractor

Typed Name and Title

Date

Signature

WARNING

U.S. Criminal Code Section 1010, Title 18, U.S.C., provides in part: "Whoever . . . makes, passes, utters, or publishes any statement, knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

**CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE
TO SUPERVISE PAYMENT OF EMPLOYEES**

Local Agency _____ CDBG Grant No. _____

Project Name _____ Date _____

Location _____ Project No. _____

(I) (We) hereby certify that (I am) (we are) (the prime contractor) (a subcontractor) for
(Specify "General Construction," "Plumbing, "Roofing," etc.) _____

_____ in connection with construction of the above-mentioned Project,
and that (I) (we) have appointed _____ whose signature
appears below, to supervise the payment of (my) (our) employees beginning

_____, 20 : That (he) (she) is in a position to have full knowledge of the facts
set forth in the payroll documents and in the statement of compliance required by the so-
called Kick-Back Statute which (he) (she) is to execute with (my) (our) full authority and
approval until such time as (I) (we) submit to the (Name of Local Agency)

_____ a new certificate appointing some
other person for the purposes herein above stated.

Identifying Signature of Appointee

Attest (if required):

(Name of Firm or Corporation)

(Signature)

By: _____
(Signature)

(Title)

(Title)

Note: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Kick-Back Statute.

CDBG # 115 (10-83)

CERTIFICATION REGARDING GOVERNMENT-WIDE RESTRICTION ON LOBBYING

(For contracts, grants, cooperative agreements, and loans over \$100,000)

The undersigned certifies, to the best of his knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards (at all tiers, including contracts under grants, loans, and cooperative agreements, subcontracts, and subgrants) over \$100,000, and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Name of Entity (city, county, contractor, etc.)

Name of Certifying Official (Mayor, Presiding Commissioner, President, etc.)

Signature of Certifying Official

Date

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by Minority Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by minority businesses as defined in GS143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

Project ID# _____ (Project Name)
Amount of Bid \$ _____

I will expend a minimum of _____ % of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below.

Attach additional sheets if required

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

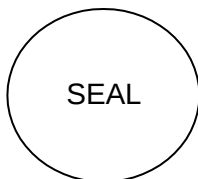
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina

AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

(Name of Bidder)

Affidavit of: _____

I do certify the attached documentation as true and accurate representation of my good faith efforts.

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions.

Examples of documentation include, but are not limited to, the following evidence:

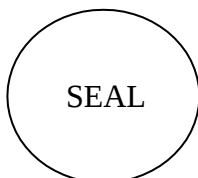
- Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- Copies of quotes or responses received from each firm responding to the solicitation.
- A telephone log of follow-up calls to each firm sent a solicitation.
- For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- Copy of pre-bid roster.
- Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- Letter detailing reasons for rejection of minority business due to lack of qualification.
- Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____
 Subscribed and sworn to before me this _____ day of _____ 20____
 Notary Public _____
 My commission expires _____

RULES IMPLEMENTING MEDIATED
SETTLEMENT CONFERENCES IN
NORTH CAROLINA PUBLIC CONSTRUCTION PROJECTS

Adopted
February 26, 2002

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RULE 1. INITIATING MEDIATED SETTLEMENT CONFERENCES

A. Purpose of Mandatory Settlement Conferences. Pursuant to G.S. 143-128(g) 143-135.26(11), these Rules are promulgated to implement a system of settlement events which are designated to focus the parties' attention on settlement rather than on claim preparation and to provide a structured opportunity for settlement negotiations to take place. Nothing herein is intended to limit or prevent the parties from engaging in settlement procedures voluntarily at any time prior to or during commencement of the dispute resolution process.

B. Initiating the Dispute Resolution Process

- 1) Any party to a public construction contract governed by Article 8. Ch. 143 of the General Statutes and identified in G.S. 143-128(g) and who is a party to a dispute arising out of the construction process in which the amount in controversy is at least \$15,000 may submit a written request to the public owner for mediation of the dispute.
- 2) Prior to submission of a written request for mediation to the public owner, the parties requesting mediation,
 - a) If a prime contractor, must have first submitted its claim to the Project Designer for review as set forth in Exhibit A. If the dispute is not resolved through the Project Designer's instructions, then the dispute becomes ripe for mediation in the Formal Dispute Resolution Process, and the party may submit his written request for mediation to the public owner.
 - b) If the party requesting mediation is a subcontractor, it must first have submitted its claim for mediation to the prime contractor with whom it has a contract. If the dispute is not resolved through the Prime Contractor's involvement, then the dispute becomes ripe for mediation in the Formal Dispute Resolution Process, and the party may submit its written request for mediation to the public owner.
 - c) If the party requesting mediation is the Project Designer, then it must first submit its claim to the public owner to resolve. If the dispute is not resolved with the public owner's involvement, then the Project Designers' dispute is ripe for mediation in the Formal Dispute Resolution Process, and the Project Designer may submit its written request to the public owner for mediation.

RULE 2. SELECTION OF MEDIATOR

A. Selection of Certified Mediator by Agreement of the Parties. The parties may select a mediator certified pursuant to the Rules by agreement within 21 days of requesting mediation. The requesting party shall file with the State Construction Office (hereinafter collectively referred to as the "SCO") or public owner if a non-State project a Notice of Selection of Mediator by Agreement within 10 days of the request; however, any party may file the notice. Such notice shall state the name, address and telephone number of the mediator selected; state the rate of compensation of the mediator; state that the mediator and opposing counsel have agreed upon the selection and rate of compensation; and state that the mediator is certified pursuant to these Rules.

- B. Nomination and Public Owner Approval of a Non-Certified Mediator.** The parties may select a mediator who does not meet the certification requirements of these rules but who, in the opinion of the parties and the SCO or public owner, is otherwise qualified by training or experience to mediate the action.

If the parties select a non-certified mediator, the requesting party shall file with the SCO a Nomination of Non-Certified Mediator within 10 days of the request. Such nomination shall state the name, address and telephone number of the mediator; state the training, experience or other qualifications of the mediator; state the rate of compensation of the mediator; and state that the mediator and opposing counsel have agreed upon the selection and rate of compensation.

The SCO or public owner shall rule on said nomination, shall approve or disapprove of the parties' nomination and shall notify the parties of its decision.

- C. Appointment of Mediator by the SCO.** If the parties cannot agree upon the selection of a mediator, the party or party's attorney shall so notify the SCO or public owner and request, on behalf of the parties, that the SCO or public owner appoint a mediator. The request for appointment must be filed within 10 days after request to mediate and shall state that the parties have had a full and frank discussion concerning the selection of a mediator and have been unable to agree. The request shall state whether any party prefers a certified attorney mediator, and if so, the SCO or public owner shall appoint a certified attorney mediator. If no preference is expressed, the SCO or public owner may appoint a certified attorney mediator or a certified non-attorney mediator.
- D. Mediator Information Directory.** To assist the parties in the selection of a mediator by agreement, the parties are free to utilize the list of certified mediators maintained in any county participating in the Superior Court Mediation Settlement Conference Program.
- E. Disqualification of Mediator.** Any party may request replacement of the mediator by the SCO or public owner for good cause. Nothing in this provision shall preclude mediators from disqualifying themselves.

RULE 3. THE MEDIATED SETTLEMENT CONFERENCE

- A. Where Conference is to be Held.** Unless all parties and the mediator otherwise agree, the mediated settlement conference shall be held in the county where the project is located. The mediator shall be responsible for reserving a place and making arrangements for the conference and for giving timely notice of the time and location of the conference to all attorneys, unrepresented parties and other persons and entities required to attend.
- B. When Conference is to be Held.** The deadline for completion of the mediation shall be not less than 30 days nor more than 60 days after the naming of the mediator.
- C. Request to Extend Deadline for Completion.** A party, or the mediator, may request the SCO or public owner to extend the deadline for completion of the conference. Such request shall state the reasons the extension is sought and

shall be served by the moving party upon the other parties and the mediator. If any party does not consent to the request, said party shall promptly communicate its objection to the SCO or public owner.

The SCO or public owner may grant the request by setting a new deadline for completion of the conference.

- D. **Recesses.** The mediator may recess the conference at any time and may set times for reconvening. If the time for reconvening is set before the conference is recessed, no further notification is required for persons present at the conference.

- E. **The mediated settlement conference shall not be cause for the delay of the construction project which is the focus of the dispute.**

RULE 4. DUTIES OF PARTIES AND OTHER PARTICIPANTS IN FORMAL DISPUTE RESOLUTION PROCESS

A. **Attendance.**

- 1) All parties to the dispute originally presented to the Designer or Prime Contractor for initial resolution must attend the mediation. Failure of a party to a construction contract to attend the mediation will result in the public owner's withholding of monthly payment to that party until such party attends the mediation.
- 2) Attendance shall constitute physical attendance, not by telephone or other electronic means. Any attendee on behalf of a party must have authority from that party to bind it to any agreement reached as a result of the mediation.
- 3) Attorneys on behalf of parties may attend the mediation but are not required to do so.
- 4) Sureties or insurance company representatives are not required to attend the mediation unless any monies paid or to be paid as a result of any agreement reached as a result of mediation require their presence or acquiescence. If such agreement or presence is required, then authorized representatives of the surety or insurance company must attend the mediation.

- B. **Finalizing Agreement.** If an agreement is reached in the conference, parties to the agreement shall reduce its terms to writing and sign it along with their counsel.

- C. **The mediation fee shall be paid in accordance with G.S. 143-128(g).**

- D. **Failure to compensate mediator.** Any party's failure to compensate the mediators in accordance with G.S. 143-128(g) shall subject that party to a withholding of said amount of money from the party's monthly payment by the public owner.

Should the public owner fail to compensate the mediator, it shall hereby be subject to a civil cause of action from the mediator for the 1/3 portion of the mediator's total fee as required by G.S. 143-128(g).

RULE 5. AUTHORITY AND DUTIES OF MEDIATORS

A. Authority of Mediator.

- 1) *Control of Conference.* The mediator shall at all times be in control of the conference and the procedures to be followed.
- 2) *Private Consultation.* The mediator may communicate privately with any participant or counsel prior to and during the conference. The fact that private communications have occurred with a participant shall be disclosed to all other participants at the beginning of the conference.
- 3) *Scheduling the Conference.* The mediator shall make a good faith effort to schedule the conference at a time that is convenient with the participants, attorneys and mediator. In the absence of agreement, the mediator shall select the date for the conference.

B. Duties of Mediator.

- 1) The mediator shall define and describe the following at the beginning of the conference:
 - a) The process of mediation;
 - b) The difference between mediation and other forms of conflict resolution;
 - c) The costs of the mediated settlement conference;
 - d) That the mediated settlement conference is not a trial, the mediator is not a judge, and the parties retain their legal rights if they do not reach settlement;
 - e) The circumstances under which the mediator may meet and communicate privately with any of the parties or with any other person;
 - f) Whether and under what conditions communications with the mediator will be held in confidence during the conference;
 - g) The inadmissibility of conduct and statements as provided by G.S. 7A-38.1(1);
 - h) The duties and responsibilities of the mediator and the participants; and
 - i) That any agreement reached will be reached by mutual consent.
- 2) *Disclosure.* The mediator has a duty to be impartial and to advise all participants of any circumstance bearing on possible bias, prejudice or partiality.
- 3) *Declaring Impasse.* It is the duty of the mediator timely to determine that an impasse exists and that the conference should end.
- 4) *Reporting Results of Conference.* The mediator shall report to the SCO or public owner within 10 days of the conference whether or not an agreement was reached by the parties. If an agreement was reached, the report shall state the nature of said agreement. The mediator's report shall inform the SCO or public owner of the absence of any party known to the mediator to have been absent from the mediated settlement conference without permission. The SCO or public owner may require the mediator to provide statistical data for evaluation of the mediated settlement conference program.
- 5) *Scheduling and Holding the Conference.* It is the duty of the mediator to schedule the conference and conduct it prior to the deadline of completion set by the rules. Deadlines for completion of the conference shall be strictly observed by the mediator unless said time limit is changed by a written order of the SCO or public owner.

RULE 6. COMPENSATION OF THE MEDIATOR

- A. **By Agreement.** When the mediator is stipulated by the parties, compensation shall be as agreed upon between the parties and the mediator provided that the provision of G.S. 143-128(g) are observed.
- B. **By Appointment.** When the mediator is appointed by the SCO or public owner, the parties shall compensate the mediator for mediation services at the rate in accordance with the rate charged for Superior Court mediation. The parties shall also pay to the mediator a one-time per case administrative rate in accordance with the rate charged for Superior Court mediation, which is due upon appointment.

RULE 7. MEDIATOR CERTIFICATION.

All mediators certified in the Formal Dispute Resolution Program shall be properly certified in accordance with the rules certifying mediators in Superior Court in North Carolina. * When selecting mediators, the parties may designate a preference for mediators with a background in construction law or public construction contracting. Such requirements, while preferred, are not mandatory under these rules.

All mediators chosen must either demonstrate they are certified in accordance with the Rules Implementing Scheduled Mediated Settlement Conference in Superior Court or must gain the consent of the SCO or public owner to mediate any dispute in accordance with these rules.

* Except when otherwise allowed by the SCO or public owner upon the request of the parties to the mediation.

RULE 8. RULE MAKING

These Rules are subject to amendment by rule making by the State Building Commission.

These Rules are mandated for State projects when the contracting state entity has not otherwise adopted its own dispute resolution provision. These rules are optional for all other projects subject to Article 8, Ch. 143 of the General Statutes.

RULE 9. DEFINITIONS

When the phrase "SCO or public owner" is used in these rules, "SCO" shall apply to state projects, "public owner" shall apply to non-state public projects.

RULE 10. TIME LIMITS

On state contracts, any time limit provided for by these Rules may be waived or extended by the SCO for good cause shown.

On non-state contracts, any time limit provided for by these Rules may be waived or extended by the mediator it appoints for good cause shown. If the mediator has not yet been appointed, the designer of record shall decide all waivers or extensions of time for good cause shown.

Exhibit A

DISPUTE RESOLUTION

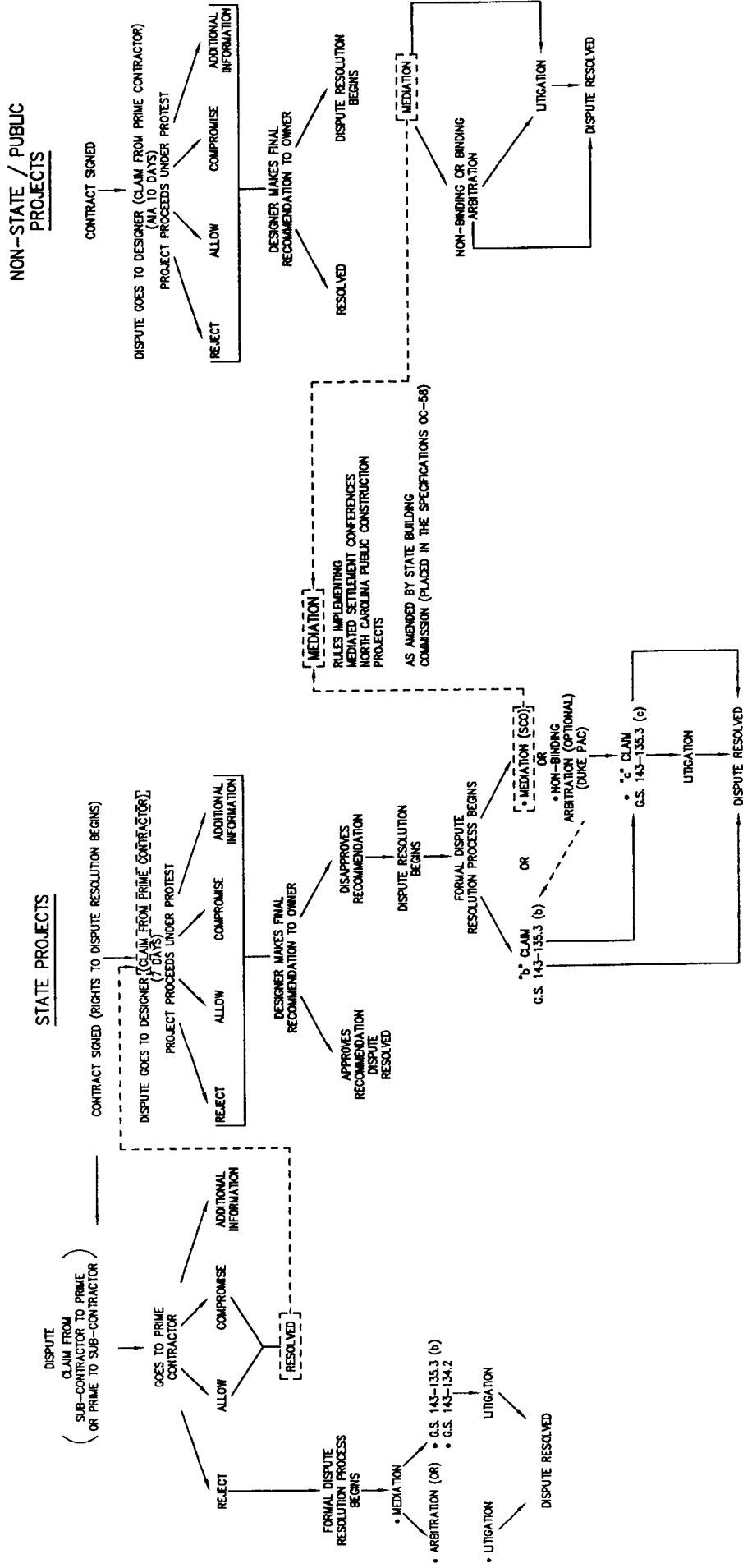


Exhibit A

DISPUTE RESOLUTION

STATE PROJECTS

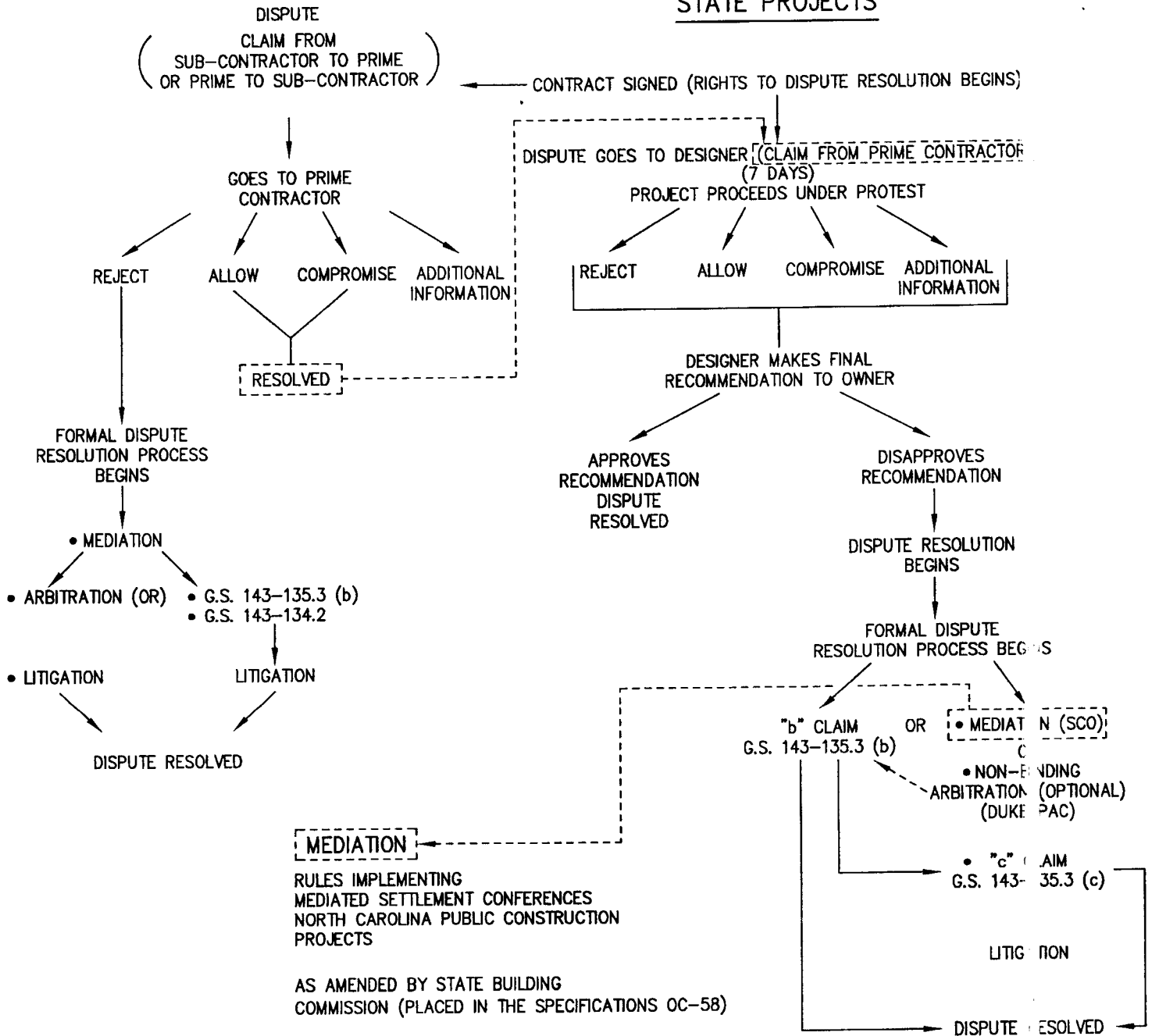
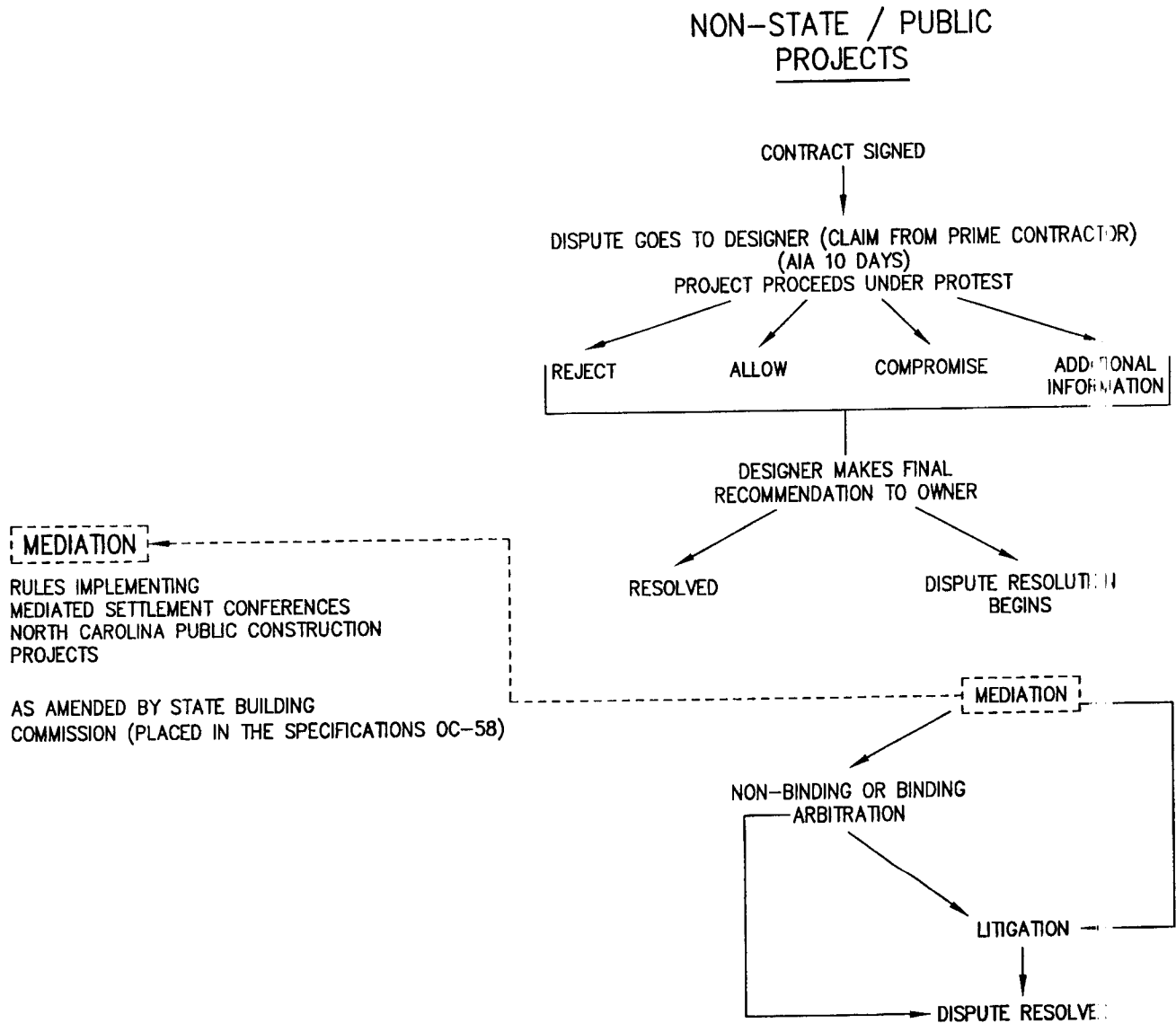


Exhibit A

DISPUTE RESOLUTION



Work Change Directive No.

Date of Issuance:

Effective Date:

Owner: Town of Apex

Owner's Contract No.:

Contractor:

Contractor's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments: *[List documents supporting change]*

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *[check one or both of the following]*

☐ Non-agreement on pricing of proposed change.

☐ Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price \$ [increase] [decrease].

Contract Time days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum

☐ Unit Price

☐ Cost of the Work

☐ Other

RECOMMENDED:

AUTHORIZED BY:

RECEIVED:

By:

By:

By:

Engineer (Authorized Signature)

Owner (Authorized Signature)

Contractor (Authorized Signature)

Title:

Title:

Title:

Date:

Date:

Date:

Approved by Funding Agency (if applicable)

By:

Date:

Title:

Change Order No. _____

Date of Issuance:

Effective Date:

Owner: Town of Apex

Owner's Contract No.:

Contractor:

Contractor's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments: *[List documents supporting change]*

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES <i>[note changes in Milestones if applicable]</i>
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] from previously approved Change Orders No. ____ to No. ____: \$ _____	[Increase] [Decrease] from previously approved Change Orders No. ____ to No. ____: Substantial Completion: _____ Ready for Final Payment: _____ days
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] of this Change Order: \$ _____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ days or dates

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (if required)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable)

By: _____ Date: _____
Title: _____

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PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Contractor shall perform clearing and grubbing. Work shall include, but not be limited, to the following:
 - 1. Access roads.
 - 2. Clearing and grubbing.
 - 3. Removal of surface debris.
 - 4. Temporary ground cover.

1.02 RELATED SECTIONS

- A. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
 - 1. Section 02370 Erosion Control
 - 2. Section 02920 Lawns and Grasses.

1.03 WARRANTY AND FINES

- A. Contractor is liable for damages to public and private property and fines as may be placed on the Project by the governing agencies due to failure to provide adequate erosion control devices.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 PROTECTION

- A. Take reasonable care during construction to avoid damage to vegetation outside of the construction limits. Temporarily tie back ornamental shrubbery and tree branches, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Treat tree trunks damaged by equipment with a tree dressing.
- B. Locate and protect property corners and survey control stakes prior to start of clearing operations.
- C. Mark clearing limits.
- D. Refer to paragraph 4.04 of the General Conditions and 4.04.A.2 of the Supplementary Conditions concerning the protection of Underground Facilities.

3.02 ACCESS ROADS AND STAGING AREA

- A. Clear for access roads.
- B. Limit clearing and grubbing for access roads to a maximum width for two-way traffic of 30 feet for 20-foot drive and 5-foot shoulders.

- C. Access roads shall have the following:
 - 1. Provide "Temporary Construction Entrance" per the standard detail on the Drawings at connection to State Roads.
 - 2. 6 inches of ABC stone.
 - 3. Provide temporary seeding of shoulders as access drives are installed.
 - 4. Provide storm pipes under drives at points of concentrated water flow.
- D. Clear for a staging area as indicated on the Drawings. Total area to be cleared shall be approved by the Engineer. Area for parking and storage of material shall have 6 inches of ABC stone.
- E. Allow reasonable use of access drive by other Contractors, Owner, Engineer, and others authorized to be on the site by the Owner.
- F. When no longer required remove stone and restore access drives and staging area to original contours. Scarify and seed access drives and staging areas.

3.03 INSTALL EROSION CONTROL DEVICES

- A. Clear areas required to install erosion control devices, which shall be in place and operational prior to other land disturbing activity. Install erosion control devices in accordance with Section, Erosion Control.

3.04 BORROW AND DISPOSAL AREAS

- A. Obtain and pay for erosion control permit for borrow and disposal areas as required by Contractor.
- B. Install and maintain erosion control devices in accordance with Contractor's approved plan.

3.05 CLEARING AND GRUBBING

- A. Clear and grub area within the construction limits and permanent easements unless noted otherwise. In wetlands, grub only as necessary for the installation of the work or 10-foot width centered over pipe, whichever is greater.
- B. Clearing shall consist of cutting and removal of vegetation to the existing ground surface and removal of debris. Debris shall include, but not be limited to, fences, steps, walls, chimneys, footings, foundation slabs, basements, signs, junked vehicles, and other rubble.
- C. Grubbing shall consist of the removal of roots over 3 inches in diameter, matted roots, stumps, and other vegetable matter to 12 inches below existing grade.
- D. Do not precede grading operation by grubbing operation by more than seven days.
- E. Fill holes and depressions and bring cleared and grubbed area to a uniform contour to match existing grade. Provide positive drainage.
- F. Remove and properly dispose of cleared and grubbed material from the site. Make reasonable effort to channel timber resulting from clearing operations into a beneficial use.
- G. Burning shall not be permitted at the site.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide labor, equipment, and material to perform site preparation and earthwork as specified herein and indicated on the Drawings. Work shall include, but is not limited to, the following:
 - 1. Survey staking as required for construction.
 - 2. Topsoil stripping and stockpiling.
 - 3. Dewatering.
 - 4. Protection of existing facilities.
 - 5. Site grading.
 - 6. Excavation, trenching, and backfilling for structures and foundation including stone base as indicated on the Drawings.
 - 7. Borrow material including, but not limited to, material, excavating, hauling, placing, and compacting.
 - 8. Maintenance and stability of site.
 - 9. Disposal of waste and surplus material.
 - 10. Soil testing.
- B. Examine the site to determine the extent of excavating, grading, and related items necessary to complete the work.

1.02 RELATED SECTIONS

- A. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
 - 1. Section 02230 Clearing and Grubbing
 - 2. Section 02315 Trenching for Utilities
 - 3. Section 02370 Erosion Control

1.03 REFERENCES

- A. The latest revision, at the time of bidding, of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. American Society of Testing Materials (ASTM)
 - a. C33 Concrete Aggregates.
 - b. D698 Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49 Kg) Rammer and 12-inch Drop (Standard Proctor).
 - c. D1556 Density of Soil in Place by the Sand-Cone Method.
 - d. D1586 Penetration Test and Spilt-Barrel Sampling of Soils.
 - e. D2167 Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - f. D2216 Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 - g. D2487 Classification of Soils for Engineering Purposes.
 - h. D2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 DEFINITIONS

- A. Backfill: A specified material used in refilling a cut, trench, or other excavation, placed at a specified degree of compaction.
- B. Capillary Water Barrier: A layer of clean, poorly graded crushed rock, stone, or natural sand or gravel having a high porosity, which is placed beneath a building slab with or without a vapor barrier to cut off the capillary flow of water to the area immediately below the slab.
- C. Compaction: Process of mechanically stabilizing a material by increasing its density at a controlled moisture condition. "Degree of compaction" shall be expressed as a percentage of the maximum dry density obtained by the test procedure presented in ASTM D698 (Standard Proctor).
- D. Excavation: The removal of soil or rock to obtain a specified depth or elevation.
- E. Fill: Specified material placed at a specified degree of compaction to obtain an indicated grade or elevation.
- F. Hard Material: Solid, homogeneous material which are not included in the definition of "rock" but which usually require the use of heavy excavation equipment with ripper teeth. Material having a standard penetration resistance as determined by ASTM D1586 60 and 150 blows per foot is defined as "hard material."
- G. Lift: Layer of soil placed on top of a previously prepared or placed soil.
- H. Rock: Solid, homogeneous material which cannot be removed without the systematic drilling and blasting exceeding one (1) cubic yard in volume. Material having a standard penetration resistance as determined by ASTM D1586 greater than 150 blows per foot is defined as "rock." Removal of "hard material" will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production.
- I. Soil classification shall be in accordance with ASTM D2487.
 - 1. Satisfactory materials: Soils classified as GW, GP, GC, GM, SP, SC, SM, SW, ML, and CL.
 - 2. Unsuitable materials: Soils considered as unsatisfactory shall be materials that do not comply with the requirements of satisfactory above and include, but shall not be limited to, the following:
 - a. Soil containing organic matter, debris, stones larger than 6 inches, or frozen material. Stones greater than 4 inches will not be permitted in the top 12 inches.
 - b. Soils classified as Pt, CH, MH, OH, and OL.
 - 3. Cohesionless: Classified as GW, GP, SW, and SP. Soils classified as GM and SM shall be classified as cohesionless only when the fines have a plasticity index of less than 10.
 - 4. Cohesive: Classified as GC, SC, ML, CL, MH, and CH. Soils classified as GM and SM shall be classified as cohesive only when the fines have a plasticity index greater than 10.
- J. Subgrade: Lowest elevation upon which fill or other work will be placed in the absence of unsuitable material.
- K. Topsoil: Natural, friable soil, representative of productive soils in the vicinity of the site. Topsoil shall be free from roots, stones larger than 1-inch, objectionable weed

seeds, toxic substances, and materials that hinder grading, planting, and maintenance operations.

1.05 SUBMITTALS

- A. Submit the following in accordance with Section, Submittal Procedures:
 - 1. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following.
 - a. Structural fabric.
 - 2. Manufacturer's Installation Procedures.
 - a. Structural fabric
 - 3. Test Reports: Submit for the following:
 - a. Moisture-density relations of soils.
 - b. Field moisture content.
 - c. Soil classification.
 - d. In-place field density.
 - e. Geotechnical engineer's daily field reports.
 - 4. Permits
 - a. Erosion control permits for borrow and disposal site(s).

PART 2 PRODUCTS

2.01 MATERIAL

- A. Capillary water barrier: A clean crushed stone, crushed gravel, or uncrushed gravel conforming to ASTM C33 coarse aggregate grading size 57, 67, or 7.
- B. Stone Base: A clean crushed stone, crushed gravel, or uncrushed gravel conforming to ASTM C33 coarse aggregate grading size ABC
- C. Structural Fabric: Provide structural fabric specifically designed and manufactured to stabilize soft soils under an aggregate base for roads and parking areas. Fabric shall provide a permeable layer, planar flow, and tensile reinforcement for retaining the soil matrix. Fabric shall be inert to commonly encountered chemicals, hydrocarbons, resistant to mildew, rot, and ultraviolet light exposure, and meet or exceed the following test standards:

1. Test	ASTM	
2. Fabric weight (oz / sq yd)	D-1910	6
3. Grab tensile strength (lbs.)	D-1682	200
4. Mullen burst strength (psi)	D-3786	320
5. Puncture strength (lbs.)	D-751	80

PART 3 EXECUTION

3.01 GENERAL

- A. Provide erosion control measures as specified in Section, Erosion Control and clearing and grubbing as specified in Section, Clearing and Grubbing.
- B. Protect existing structures and features to remain.
- C. Dispose of excavated material in such a manner that it will not obstruct the water flow, endanger existing improvements or Work in progress, impair the use or appearance of the existing facilities, or be detrimental to the completed Work.

- D. Weather Limitations: Proceed with fill and backfill operations based on the following weather conditions:
 - 1. Temperature must be above freezing.
 - 2. In windy, hot, or arid conditions with a high rate of evaporation add moisture to the material to maintain the optimum moisture content.
 - 3. Do not proceed in rain or on saturated subgrade.
- E. Repair or undercut and backfill soils that become damaged by construction activity or unsuitable due to being left exposed to the weather at no additional cost.
- F. Do not place material on surfaces that are muddy, frozen, or contain frost.
- G. Excavation carried below the elevation indicated on the Drawings shall be backfilled and compacted in accordance with these specifications.
- H. Remove and properly dispose of unsatisfactory and excess material from the site.

3.02 CONSTRUCTION STAKING

- A. Provide construction staking as indicated in paragraph 4.05 of the General Conditions. Engineer will only provide key reference points and benchmarks.

3.03 PROTECTION OF UNDERGROUND FACILITIES

- A. Refer to paragraph 4.04 of the General Conditions and 4.04.A.2 of the Supplementary Conditions concerning the protection of Underground Facilities.
- B. Investigate underground facility locations prior to the start of construction.
- C. Repair damage to existing facilities at no additional cost to the Owner.
- D. A change in conditions may be considered due to the location of the existing facilities as allowed in the General Conditions. This does not include the cost for repair of damaged facilities not properly located in advance of construction.

3.04 WATER CONTROL

- A. Inspect the site prior to mobilizing to determine the appropriate equipment for site grading and utility work.
- B. Perform work to prevent surface water from accumulating in excavations, and unfinished fill areas. Perform grading and excavation so the work area and affected operations shall be continually and effectively drained.
- C. When trench bottom is below the existing ground water table, install a dewatering system to maintain water table 1 foot below trench bottom. Provide personnel experienced in dewatering work at the job site.
- D. Maintain dewatering until backfilling has proceeded above the natural ground water level.
- E. Water from dewatering operations must be disposed of in accordance with the North Carolina Sedimentation Pollution Control Act.

3.05 USE OF EXPLOSIVES

- A. In the event that rock is encountered that requires the use of explosives for the prescribed grading and excavation, include cost of such removal in the bid price for the work.
- B. Notify Engineer and Owner 48 hours prior to the use of explosives.

- C. Store, handle, and use explosives in accordance with local and state regulations, or in the absence of such, in accordance with the provisions of the "Manual of Accident Prevention and Construction" of the Associated General Contractors of America, Inc.
- D. Conduct survey and document existing conditions of facilities close by that could be affected by blasting operations prior to blasting. Provide seismographic monitoring during process of blasting operations.
- E. Use explosives in such a way to prevent excessive vibration to existing utilities and structures. Use the minimum amount of explosives necessary for removal of rock.
- F. Perform explosive operations only by experienced men working according to accepted practices.
- G. Do not endanger life or property or damage resulting from the use of explosives.

3.06 TOPSOIL

- A. Strip topsoil from areas to be disturbed to a depth of 8 inches and stockpile separate from other excavated material. Locate topsoil so that the material can be used readily for the finished grading. Protect and maintain topsoil until needed. Place topsoil after completion of work in accordance with Section 02920, Lawns and Grasses.
- B. Perform stripping with wide track dozer or other appropriate equipment to minimize disturbance to subgrade soils. Do not use rubber-tired equipment.

3.07 SITE GRADING

- A. Proofroll exposed soils following topsoil stripping with a partially loaded tandem axle dump truck to identify unsuitable subgrade areas as determined by the Engineer. Unsuitable areas will be repaired in place or undercut to firm soils as directed by the Engineer. Payment for in place repair or undercutting and backfilling of unsuitable areas shall be as indicated in the Measurement and Payment paragraph.
- B. Perform undercutting of unsuitable soils with a backhoe top loading dump truck or similar equipment approved for the use by the Engineer. Backfill undercut areas immediately.
- C. In undercut areas where the exposed soils may be wet and compaction of the initial fill may be difficult, a bridge lift of about 18 to 24 inches may be allowed at the direction of the Engineer.
- D. In-Place repair shall consist of discing and recompaction of existing soils to a depth of approximately 12 inches.
- E. At the direction of the Engineer provide a structural fabric for stabilization of unsuitable soil areas. Install fabric in accordance with the manufacturer's recommendation and the following minimum requirements.
 - 1. Provide a fabric overlap of 24 inches.
 - 2. Back dump and spread aggregate over fabric at the aggregate specified thickness.
 - 3. Compact aggregate with vibratory roller prior to allowing additional construction traffic.
- F. Site grading shall be unclassified except as specifically indicated otherwise. Perform grading within the limits of the Project. Finished surface shall conform to the grades

and cross sections indicated on the Drawings and be uniformly sloped for a positive drainage away from structures.

- G. Excavate rock encountered in cut sections to a depth of 6 inches below finished subgrade and backfill with satisfactory material.
- H. Scarify the existing subgrade surface to a minimum depth of 6 inches and recompact if subgrade density is less than the degree of compaction for the proposed fill material. Plow or bench existing ground surfaces steeper than one vertical to four horizontal in such a manner that the fill material will bond with or be keyed to the existing surface. Use compaction equipment suitable for the soil being compacted. Moisten or aerate material as necessary to obtain the optimum moisture content within plus or minus one percent to obtain specified compaction.
- I. Soils used for fill and backfill shall be satisfactory soils classified SP, SM, or SW in accordance with ASTM D2487. Dry or wet soil as necessary to maintain optimum moisture.
- J. Place backfill and fill material in accordance with the following:
 - 1. Maximum uniform loose lifts: 8 inches or as recommended by soils testing firm
 - 2. Optimum moisture content: +/- 1.5% of optimum or as recommended by soils testing firm
 - 3. Percent compaction at optimum moisture content:
 - a. From ex. grade to within one (1) foot of struc. subgrade: 95
 - b. Final foot to subgrade under floor slabs and pavements: 98
 - c. Under sidewalks and grass areas: 90
- K. Approved compacted subgrade that is disturbed by construction or adverse weather shall be scarified and re-compacted as specified previously. Re-compaction over utilities shall be by hand tamping.

3.08 FILL AND BACKFILL

- A. Place and compact fill and backfill material adjacent to structures in a manner that prevents wedging and eccentric loading on or against structures. Do not use equipment adjacent to structures that may overload structure. Backfill against structure only after concrete has attained the specified 28-day compressive strength.
- B. Stone Base: Structures shall have a compacted crushed stone subgrade to the depth of 12 inches, except the Control Building, which shall have a stone subgrade of 6 inches.

3.09 EXCAVATION FOR STRUCTURES

- A. Provide shoring or side slopes of excavations as necessary to protect workmen, and existing and new structures. Use, install, and remove shoring in accordance with State and Federal OSHA regulations.
- B. Furnish, erect, and maintain required guardrails at exposed boundaries of excavation.
- C. Perform excavation for utilities in accordance with Section, Trenching for Utilities. Install utilities to a minimum distance of five (5) feet beyond the face of the structure.
- D. Make excavation to the dimensions and elevations for the structures as indicated on the Drawings. Extend excavation a sufficient distance from walls and footings to allow for placing and removal of forms.

- E. Remove unsatisfactory material below required grade and replace with select backfill material as directed by Engineer.
- F. Excavation carried below the depths indicated, without specific directions, shall be backfilled and compacted as specified herein to the proper grade. In excavations for footings the concrete shall be extended to the bottom of the over excavation. Work caused by over excavation shall be at the Contractor's expense.
- G. Excavation Below Structures in Which Rock is Encountered: The rock shall be removed to a 12" depth below the structure bottom. The entire area excavated shall be brought to subgrade elevation with a suitable fill material compacted to 95% of the maximum density in accordance with ASTM D-2167.
- H. The upper 9-inches of the subgrade after excavating for each structure should be compacted in place to at least 95% standard Proctor maximum dry density. The subgrade should be proof-rolled using a vibratory roller weighing a minimum of 10 tons (static load) until settlement from the last four complete passes does not exceed 1/8 inch. Any soft, unsuitable or unacceptable soils encountered in the subgrade should be replaced with structural fill placed and compacted to 95% of the standard Proctor maximum dry density.

3.10 ROCK EXCAVATION

- A. Notify Engineer immediately in the event that rock is encountered when the Contract requires payment by the unit price.

3.11 BORROW MATERIAL

- A. Provide borrow material required for fill and backfill to bring the site to the elevations indicated on the Drawings. Borrow material shall be subject to the approval of the Engineer. Notify Engineer as to the site selected for inspection and approval prior to transporting borrow material to the site.
- B. Obtain erosion control permit as necessary for borrow pit grading operations.
- C. Provide soil analysis for each type of material from proposed borrow pit(s) for Engineer's approval prior to placing borrow material. Contractor shall do necessary work to bring the borrow material to within plus or minus 1-1/2 percent of the optimum moisture content. A minimum of one sample per structure shall be obtained for analysis.

3.12 MAINTENANCE AND STABILITY

- A. Maintain fills and embankments to the grade and cross section indicated on the Drawings until the final completion and acceptance of the Project. Repair areas that are damaged.

3.13 DISPOSAL OF SURPLUS MATERIAL

- A. Dispose of surplus material not required or unsuitable for filling, backfilling, or grading in an approved spoil area in accordance with local ordinances.
- B. Obtain erosion control permit as necessary for disposal site(s).

3.14 SOIL TESTING

- A. Provide the services of a soil-testing firm as specified in Section, Quality Control.

- B. The testing laboratory soil specialist, as a minimum, shall be at the project site for the following:
 - 1. Monitor proofrolling of existing soils to determine requirements for undercutting unsuitable soils
 - 2. Monitor grading for the separation and wasting of unacceptable soils.
 - 3. Providing tests in accordance with the following schedule:
 - a. Optimum moisture and laboratory maximum density: Provide one (1) test per type of material to determine optimum moisture and maximum density values in accordance with ASTM D698.
 - b. Moisture content: Provide two (2) tests per day per type of material in accordance with ASTM D2216.
 - 4. Provide in-place field density in accordance with ASTM D1556 or other approved test and the following schedule:
 - a. Provide a minimum of one (1) in-place bearing capacity test for every 1,200 sq ft of subgrade area under structures prior to the start of foundation work.
 - b. While filling activities are in progress for structures and paved areas. Provide a minimum of one (1) in-place density test for every 1,200 sq ft of lift with a minimum of one (1) test for every lift.
 - c. Provide a minimum of one (1) in-place bearing capacity test for every 100 feet of foundation trench.
 - 5. Monitor for settlement due to construction activities during excavation work adjacent to existing building.
- C. Submit test reports and soil specialist daily logs in accordance with Section, Quality Control.
- D. Contractor responsibilities for soil testing shall include, but not be limited to, the following:
 - 1. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services as indicated above.
 - 2. Cooperate with laboratory personnel, and provide access to the Work.
 - 3. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site, to facilitate tests and inspections, storage, and curing of test samples.
 - 4. Based on test results, make corrections, adjustments, and modifications of methods, materials, and moisture content for proper placing and compaction of fill and backfill material.

END OF SECTION

SECTION 02315

TRENCHING FOR UTILITIES

PART 1 GENERAL

1.01 SCOPE

- A. Provide labor, equipment, and material to perform required excavating, backfilling, and compacting for utilities and related structures as specified herein and indicated on the Drawings. Work shall include, but not be limited to, the following:
 - 1. Survey staking as required for construction.
 - 2. Protection of existing improvements.
 - 3. Location of installed utilities.
 - 4. Use of explosives.
 - 5. Dewatering.
 - 6. Excavating, backfilling, and compacting for utilities.
 - 7. Installation of warning / identification tape and tracer wire.
 - 8. Borrow material.
 - 9. Disposal of surplus material.
 - 10. Soil Testing.

1.02 RELATED SECTIONS

- A. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
 - 1. Section 02230 Clearing and Grubbing
 - 2. Section 02370 Erosion Control
 - 3. Section 02530 Sanitary Sewer System
 - 4. Section 02920 Lawns and Grasses

1.03 REFERENCED STANDARDS

- A. The latest revision, at the time of bidding, of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. N.C. Department of Transportation - Standard Specifications for Roads and Structures (NCDOT).
 - 2. American Society of Testing Materials (ASTM)
 - a. D698 Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49 Kg) Rammer and 12-inch Drop (Standard Proctor).
 - b. D1556 Density of Soil in Place by the Sand-Cone Method.
 - c. D1586 Penetration Test and Spilt-Barrel Sampling of Soils.
 - d. D2049 Test for Relative Density of Cohesionless Soils.
 - e. D2216 Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 - f. D2487 Classification of Soils for Engineering Purposes.
 - 3. Uni-Bell PVC Pipe Association
 - a. B-5-89 Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe.

1.04 DEFINITIONS

- A. Backfill: A specified material used in filling the excavated trench and placed at a specified degree of compaction.
 - 1. Materials: Materials listed herein include processed materials plus the soil classifications listed under the Unified Soil Classification System, (USCS) (Method D2487 and Practice D2488). The soil materials are grouped into five broad categories according to their suitability for this application.
 - a. Class I: Angular, 6 to 40-mm (1/4 to 1-1/2-in), graded stone, including a number of fill materials that have regional significance such as coral, slag, cinders, crushed stone, and crushed shell.
 - b. Class II: Coarse sands and gravels with maximum particle size of 40 mm (1-1/2 in.), including various graded sands and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil Types GW, GP, SW, and SP are included in this class.
 - c. Class III: Fine sand and clayey gravels, including fine sands, sand-clay mixtures, and gravel-clay mixtures. Soil Types GM, GC, SM, and SC are included in this class.
 - d. Class IV: Silt, silty clays, and clays, including inorganic clays and silts of medium to high plasticity and liquid limits. Soil Types MH, ML, CH and CL are included in this class. These materials shall not be used for bedding, haunching, or initial backfill.
 - e. Class V: This class includes the organic soils OL, OH, and PT as well as soils containing frozen earth, debris, rock larger than 40 mm (1 1/2 in.) in diameter, and other foreign materials. These materials shall not be used for bedding, haunching, or initial backfill.
 - 2. Backfill Zones: Each backfill zone shall extend the full width of the trench bottom.
 - a. Foundation: Extending down from the bottom of bedding zone as defined below.
 - b. Pipe Embedment
 - 1) Bedding: Extending from 4 inches below the pipe bottom to the pipe bottom for 30-inch diameter and smaller and 6 inches below the pipe bottom for pipes larger than 30 inches in diameter.
 - 2) Haunching: Extending from the bedding (bottom of the pipe) to the pipe spring line.
 - 3) Initial Backfill: Extending from the haunching (pipe spring line) to 1 foot above the top of the pipe.
 - c. Final Backfill: Extending from the initial backfill to the finish ground elevation.
- B. Laying Conditions:
 - 1. Type 1: Flat bottom trench with loose backfill.
 - 2. Type 2: Flat bottom trench with backfill lightly consolidated to centerline of pipe.
 - 3. Type 3: Pipe bedded in 4 inches minimum of loose soil and backfill lightly consolidated to top of pipe.
 - 4. Type 4: Pipe bedded on Class I material to 1/8 pipe diameter (4 inch minimum) Backfill compacted to top of pipe a minimum of 80 percent of standard proctor.
 - 5. Type 5: Pipe bedded in compacted Class I material to pipe centerline with 4-inch minimum under pipe. Backfill to top of pipe with Class I, II, or III and compact to 90 percent of standard proctor.

- C. Compaction: Process of mechanically stabilizing a material by increasing its density at a controlled moisture condition. "Degree of compaction" shall be expressed as a percentage of the maximum dry density obtained by the test procedure presented in ASTM D698 (Standard Proctor).
- D. Excavation: The removal of soil or rock to obtain a specified depth or elevation.
- E. Hard Material: Solid, homogeneous material which is not included in the definition of "rock" but which may require the use of heavy excavation equipment with ripper teeth. Amount must exceed 1 cubic yard in volume. Material having a standard penetration resistance as determined by ASTM D1586 between 60 and 150 blows per foot is defined as "hard material."
- F. Lift: Layer of soil placed on top of a previously prepared or placed soil.
- G. Rock: Solid, homogeneous material which cannot be removed without the systematic drilling and blasting exceeding 1 cubic yard in volume. Material having a standard penetration resistance as determined by ASTM D1586 greater than 150 blows per foot is defined as "rock." Removal of "hard material" will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production.
- H. Pipe Springline: A line running horizontally through the center of the pipe.
- I. Topsoil: Natural, friable soil, representative of productive soils in the vicinity of the site. Topsoil shall be free from roots, stones larger than 1 inch, objectionable weed seeds, toxic substances, and materials that hinder grading, planting, and maintenance operations.

1.05 SUBMITTALS

- A. Submit the following in accordance with Section, Submittal Procedures:
 - 1. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following. Clearly indicate equipment to be furnished for the Project including options to be provided.
 - a. Warning / Identification tape.
 - 2. Test Reports: Submit for the following:
 - a. Moisture-density relations of soils.
 - b. Field moisture content.
 - c. Soil classification.
 - d. In-place field density.
 - e. Geotechnical engineer's daily field reports.

PART 2 PRODUCTS

2.01 STONE

- A. Class I material shall be #67 or #78M stone in accordance with NCDOT specifications Section 1005, General Requirements for Aggregate.

2.02 WARNING AND IDENTIFICATION TAPE

- A. Tape shall be a minimum 3-inch wide polyethylene plastic tape manufactured specifically for identification of buried utilities with means of enabling detection by a metal detector to a minimum depth of 3 feet. Tape shall be color coded and continuously imprinted with warning and identification markings in bold black letters

to read "CAUTION - BURIED (utility) LINE BELOW." Color and printing shall be permanent, unaffected by moisture or soil and shall be as follows:

Utility	Color	Marking
1. Water	Blue	Caution - Buried Water Line Below
2. Gravity Sewer	Green	Caution - Buried Sewer Line Below
3. Force Main	Green	Caution - Buried Force Main Below
4. Electric	Red	Caution - Buried Electric Line Below
5. Gas	Yellow	Caution - Buried Gas Line Below
6. Telephone	Orange	Caution - Buried Telephone Line Below
7. SCADA	Orange	Caution - Buried SCADA Line Below

- B. Tape shall be by Blackburn Manufacturing, Joseph G. Pollard Co., or Reef Industries Inc.

2.03 TRACER WIRE

- A. Tracer wire shall be #12 solid copper wire. All connections shall be by wire nuts and taped.
- B. Splices in tracer wire are to be kept to a minimum and joined with copper split nuts of appropriate size.
- C. Wire shall be colored according to the utility being installed. Color shall coincide with colors identified in section 2.02.A.

PART 3 EXECUTION

3.01 PROJECT SAFETY

- A. Contractor is responsible for Project safety.
- B. Perform work in conformance with applicable State and Federal safety regulations including, but not limited, to the following:
1. North Carolina Safety and Health Standards for the Construction Industry (29CFR 1926 Subpart P).
 2. NC OSHA Industry Guide No. 14, Excavations.
 3. NC OSHA Industry Guide No. 20, Crane Safety.
- C. Provide barriers, warning lights, and other protective devices at excavations as necessary for safety of workers and the public.
- D. Provide sloping of bank, shoring, sheeting, or other means of maintaining the stability of the trench in accordance with the requirements of the Associated Contractor's Manual of Accident Prevention OSHA, Part 1926.P.

3.02 PROTECTION OF UNDERGROUND FACILITIES

- A. Refer to paragraph 4.04 of the General Conditions and SC-4.04.A.2 of the Supplementary Conditions concerning the protection of Underground Facilities.
- B. Investigate underground facility locations prior to the start of construction.
- C. Repair damage to existing facilities at no additional cost to the Owner.
- D. A change in conditions may be considered due to the location of the existing facilities as allowed in the General Conditions. This does not include the cost for repair of damaged facilities not properly located in advance of construction.
- E. Separation distances shall be in accordance with utilities requirements.

3.03 CONSTRUCTION STAKING

- A. Provide construction staking as indicated in paragraph 4.05 of the General Conditions. Engineer will only provide key reference points and benchmarks.

3.04 LOCATION OF INSTALLED UTILITIES

- A. Contractor shall be responsible for locating contract installed utilities as requested by third parties proposing to dig in the contract area until the date that the entire contract is recommended for final payment by Engineer to Owner.

3.05 WATER CONTROL

- A. Prevent surface water from entering the trench.
- B. When trench bottom is below the existing ground water table, install a dewatering system to maintain water table 1 foot below trench bottom. Provide a man experienced in dewatering work at the job site.
- C. Maintain dewatering until backfilling has proceeded above the existing ground water level.
- D. Dispose of water from dewatering operations in accordance with the North Carolina Sedimentation Pollution Control Act.

3.06 USE OF EXPLOSIVES

- A. Obtain required permits for blasting.
- B. Store, handle, and use explosives in accordance with local and state regulations, or in the absence of such, in accordance with the provisions of the "Manual of Accident Prevention and Construction" of the Associated General Contractors of America, Inc.
- C. Conduct survey and document existing conditions of facilities prior to blasting. Provide seismographic monitoring during progress of blasting operations.
- D. Use explosives in such a way to minimize vibration to existing utilities and structures.
- E. Provide only experienced men for blasting in accordance with accepted practices.
- F. Contractor is responsible for safety of life and damage to property resulting from the use of explosives.

3.07 EXCAVATING

- A. Excavation shall be by open cut, unless otherwise indicated on the Drawings or specified herein. Short sections of trench may be tunneled or direct bored with the approval of the Engineer.
- B. Stockpile excavated material in such a manner that it will not obstruct the flow of runoff, streams, endanger Work, impair the use or appearance of existing facilities, or be detrimental to the completed Work.
- C. Contractor shall segregate excavated material so as to maintain material suitable for backfill separate from material that is unsuitable.
- D. Trench dimensions at the pipe embedment and foundation zone unless noted otherwise shall be as follows:
 - 1. Minimum width: Pipe outside diameter plus 18 inches.
 - 2. Maximum width: Pipe outside diameter plus 24 inches.

- 3. Sides shall be vertical to a minimum of one foot above the top of pipe.
- E. Shape trench bedding to provide uniform bearing for the full pipe length. Bottom shall be free of protrusions that could cause point loading on pipe. Provide bell holes as required for properly making pipe joint.
- F. Do not over excavate. Excavation below grade without approval of Engineer shall be backfilled with Class I material at no additional cost.
- G. Undercut soils that become unsatisfactory by construction activity or by being left exposed to the weather and backfill with Class I material at no additional cost.
- H. Remove shoring, bracing, and sheeting, unless otherwise noted, as the trench is backfilled. Engineer shall have the authority to require that the sheeting be left in place.
- I. Excavation of trench shall not advance more than 200 feet ahead of the installation. In no case should the excavation extend beyond that which can be backfilled by the end of the workday.
- J. Correct unstable soil conditions encountered at trench foundation by one of the following methods:
 - 1. Excavate below grade as approved by Engineer and backfill with Class I material or approved substitute material at unit price bid or the cost to be included in pipe unit bid price as indicated in Section, Unit Prices.
 - 2. Provide piling and / or timber cradles in a manner approved by the Engineer. Payment will be made as a change to the Contract Price.
 - 3. Provide concrete cradle or encasement of concrete at unit price bid or the cost to be included in the lump sum price as indicated in Section, Unit Prices.
- K. Rock and Hard Material
 - 1. Excavate rock and hard material to a minimum depth of 4 inches below the pipe for pipes smaller than 30 inches and 6 inches for pipes 30 inches and larger.
- L. Gravity Lines:
 - 1. Excavate trench to the alignment and grade indicated on the Drawings.
- M. Utility Structures: Provide a minimum of 12 inches below subgrade and backfill with Class I compacted to 95 percent maximum density. If the soil conditions are found to be unsuitable for structural stability of the manhole, Engineer may require additional depth of Class I material.

3.08 BACKFILLING

- A. Weather Limitations: Proceed with backfill operations based on the following weather conditions:
 - 1. Temperature must be above freezing and rising.
 - 2. In windy, hot, or arid conditions with a high rate of evaporation add moisture to the material to maintain the optimum moisture content.
 - 3. Do not proceed in rain or on saturated subgrade.
 - 4. Do not place material on surfaces that are muddy, frozen, or contain frost.
- B. General
 - 1. Maintain backfill operation within 200 feet from pipe laying operation.
 - 2. Backfill trench to existing ground surface with select excavated material at the specified compaction.
 - 3. If excavated material is unsuitable to obtain specified compaction, provide suitable off-site borrow material for backfill.

4. Re-excavate trenches improperly compacted. Backfill and compact as specified.
 5. Provide appropriate tamping equipment, and water to obtain proper moisture content, to achieve specified compaction of backfill.
 6. Conduct operation of heavy equipment above pipe installation as to prevent damage to pipe.
 7. Install warning / identification tape over utilities. Bury tape one foot below finished grade above the utility.
 8. Install tracer wire for non-metallic pressure pipe. Bury tracer wire with pipe. Wire shall be looped into valve boxes to allow access for direct contact location.
- C. Backfill in pipe embedment zone (bedding, haunching, and initial backfill).
1. General:
 - a. Backfill with material as specified below. Material shall be free from objects larger than 2 inches.
 - b. Where rock and hard material has been excavated below pipe bottom, backfill and compact bedding with Class I material. Class II or III material may be used for bedding with Engineer's approval.
 - c. Place backfill material to assure placement of material under pipe haunches.
 - d. Take care during placement and compacting of material to avoid movement of pipe.
 2. Place backfill in bedding and haunching zones in 6 inch maximum lifts and compact to 90 percent density. Place initial backfill in one lift do not compact. Provide backfill material in pipe embedment zone as specified below.
 - a. Gravity Sewer Lines, Rigid pipe (concrete and ductile iron)
 - 1) Excavation in Class I, Class II, Class III, and stable Class IV soils suitable for bedding, the bedding surface shall provide a firm foundation of uniform density. Backfill with select excavated material.
 - 2) Excavation in Class V, unstable Class IV soils, running water, and other unstable soil conditions, excavate a minimum of 4 inches below pipe bottom and provide Class I material for bedding and haunch zone. Backfill with Class I, II, or III material in initial backfill.
 - 3) Ductile Iron over 16 inch
 - i) Depth 0 - 12 feet: Type 2 laying conditions same as for pressure pipe.
 - ii) Depth over 12 feet: Provide Class I material for bedding and 4 inches up from bottom of pipe.
 - b. Gravity Sewer Lines, Flexible (PVC SDR 35)
 - 1) Depth 0 to 14 ft: Provide Class I material for bedding and haunching. Backfill with Class I, II, or III material in initial backfill.
 - 2) Depth over 14 ft: Provide Class I material for bedding, haunching, and initial backfill.
 - c. Gravity Sewer Lines, Semi-rigid pipe (PVC and ABS Truss Pipe)
 - 1) Depth 0 to 14 ft: Provide Class I material for bedding and haunching. Backfill with Class I, II, or III material in initial backfill.
 - 2) Depth over 14 ft: Provide Class I material for bedding, haunching, and initial backfill.
- D. Final Backfill
1. Backfill with materials free of stones and free of debris larger than 6 inches in dimension. Place backfill in lifts not exceeding the thickness and compacted to the minimum density specified below.

2. Trench backfilled with noncohesive materials may be compacted with water flooding; except under roadways, shoulders of roadways, and other areas subject to vehicular movement, provided the method of compaction is approved by the Engineer and provides the degree of compaction required.
3. Lifts and density:
 - a. Undeveloped areas (i.e., forests, fields, and, croplands): Trench may be filled with bulldozer blade provided material fall will not damage pipe. Mound soil over the trench area sufficiently to settle level over time. Degree of compaction shall be 85 percent.
 - b. Lawns: Backfill in 12-inch lifts and compact to 90 percent. Top 12 inches shall be free of material with a dimension over 2 inches.
 - c. Roads (including Rights-of-way), drives, parking areas (including areas within 20 feet), and adjacent to existing utilities: Backfill in 6 inch lifts compact to 95 percent.
 - d. Within 20 feet of foundations: Backfill in 6-inch lifts compacted to 95 percent.
- E. Utility Structures: Bring backfill to grade in even lifts on all sides. Lift depths and compaction densities shall be as specified according to area of installation for pipe above. Backfill against cast-in-place concrete structure only after concrete has attained the specified 28-day compressive strength.

3.09 ANTI-SEEP COLLARS

- A. Anti-seep Collars: Provide anti-seep collars to prevent groundwater flow along pipe in wetlands as indicated on the Drawings. Use select clay material for collars. Collars shall extend past trench walls and bear against undisturbed soils. Dimension of collars shall be as indicated on the Drawings. Do not place stone in area of anti-seep collars.
- B. Concrete Collar: Provide Class B concrete with minimum cement content of 5 sacks per cubic yard (5.5 sacks for angular course aggregate); 6.8 gallons of water per sack water-cement ratio; 2-4 inch slump range; and 28-day strength of 2,500 psi.
- C. Clay Collar: Provide clay of medium to high plasticity with a soil classification of CL or CH and a permeability of 10-5 cm / second. Place clay in 6-inch lifts and compact by use of a mechanical hydraulic tamper to 95 percent.

3.10 SOIL TESTING

- A. Provide services of a soil-testing firm as specified in Section, Quality Control.
- B. Testing laboratory soil specialist, as a minimum, shall be at the project site for the following:
 1. Provide a minimum of one (1) in-place density test for every 1,000 lf of trench.
- C. Density tests shall be made in accordance with ASTM D-698, Standard Proctor Method.
- D. Submit test reports and soil specialist daily logs in accordance with Section, Quality Control.
- E. Based on test results, make corrections, adjustments, and modifications of methods, materials, and moisture content for proper trench compaction.

3.11 PAVEMENT PATCHING

- A. Repair damaged pavement structure.

- B. Cut existing pavement for utility installation in straight lines generally parallel to the utility. Properly dispose of removed pavement structure.
- C. Extend pavement patch 1 foot beyond each side of trench on firm subgrade. Slope new surface to drain.
- D. Asphalt Pavements: Replace asphalt pavement with a pavement structure no less than as detailed on the Drawings. For roadways under NC Division of Highways jurisdiction, pavement shall be replaced in accordance with the requirements of the encroachment agreement.
- E. Concrete Pavements: Replace concrete pavement with pavement structure equal to existing but no less than as detailed as Drawings. Concrete shall be minimum 3,000 psi. When existing concrete joint is within 5 feet of trench remove existing concrete to joint. Provide expansion joint at edge of existing concrete. Surface treatment shall match existing.
- F. Curbs, Gutters, and Sidewalks: Replace curbs and gutters, and sidewalks removed or damaged with similar sections to match the existing. Remove to nearest existing joint.
- G. Approval of Other Authorities: Pavements under the jurisdiction of the NC Division of Highways shall be subject to the approval of a representative of that Division.
- H. Raise existing and new manholes and valve boxes to finished pavement grade. Excavate around top of existing manhole and valve box as necessary. Remove existing top ring, and install new grade ring(s) as necessary. Install existing cover. Raise existing valve box. Provide concrete collar around manhole ring and valve box.
- I. Pavement patching shall include the cost to adjust existing and new manhole and valve boxes to finished pavement elevations.

3.12 GRADING AND CLEAN-UP:

- A. Provide for testing and clean up as soon as practicable, so these operations do not lag far behind the pipe installation. Perform preliminary clean up and grading as soon as backfill is complete.
- B. Provide positive drainage of finished grade and drain away from structures. Finished grade shall be reasonably smooth, compacted, free from irregular surface changes and comparable to the adjacent existing ground surface.
- C. Seed disturbed areas in accordance with Section, Lawns and Grasses.
- D. Upon completion of backfilling, remove and properly dispose of excess material and waste.

END OF SECTION

SECTION 02370

EROSION CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Work shall include, but not be limited to, the following:
 - 1. Erosion control at project site.
 - 2. Erosion control at borrow/disposal areas as required by Contractor. Cost shall include erosion control permits as necessary for borrow and disposal areas.
 - 3. Removal of surface debris.
 - 4. Temporary and permanent ground cover.
 - 5. Maintain and remove erosion control devices.
 - 6. Self Inspection and Monitoring

1.02 RELATED SECTIONS

- A. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
 - 1. Section 02920 Lawns and Grasses

1.03 REFERENCED STANDARDS

- A. "Erosion and Sediment Control Planning and Design Manual," issued by the N. C. Sedimentation Control Commission.

1.04 QUALITY ASSURANCE

- A. Conform to rules and regulations of the Erosion Control Laws of the State of North Carolina, specifically the Sedimentation Pollution Control Act of 1973 (G.S. 113A) as amended, and the local jurisdiction where the project is located.
- B. Post a copy of the approved erosion control permit, at the site prior to starting work. Maintain a copy of the approved erosion control plan at the site.
- C. Provide permanent ground cover as soon as possible, and no later than 15 working days after completion of work in a specific area.

1.05 WARRANTY

- A. Contractor is liable for damages to public and private property and fines as may be placed on the Project by the governing agencies due to failure to provide adequate erosion control devices.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Matting / Erosion Control Fabric (ECF): Matting and ECF shall be heavy jute mesh over mulch held in place by staples. Commercially available ECFs may be used upon approval of the engineer. Approval of fabrics will require manufacturer's design data regarding velocity, ditch slopes, method of installation, decay cycle, repair techniques, and grass growth enhancement characteristics.
- B. Wire Staples: 16 gauge steel wire, with minimum of 3" top and 4" long legs.

- C. Gravel for Stone Filters: #57 crushed stone.
- D. Filter Fabric: 7-1/2 oz. burlap fabric or other silt filtering fabric.
- E. Riprap:
 - 1. Class A: Stone shall conform to NCDOT standards and shall range in size from 2 to 6-inches with the stone gradation being equally distributed within the required size range.
 - 2. Class B: Stone shall conform to NCDOT standards and shall range in size from 5 to 12-inches with the stone gradation being equally distributed within the required size range.
 - 3. Type 1: Stone shall conform to NCDOT standards and shall range in size from 5 to 17-inches with the stone gradation being equally distributed within the required size range.

PART 3 EXECUTION

3.01 INSTALL EROSION CONTROL DEVICES

- A. Install erosion control devices, which shall be in place and operational prior to other land disturbing activity.
- B. After installing erosion control devices as indicated on the Drawings, verify that reasonable measures have been taken to prevent the sedimentation of nearby watercourses, existing and new facilities, and adjacent property.
- C. Should Contractor believe that additional measures are necessary to adequately prevent erosion, immediately notify Engineer. If rain is predicted before the Engineer can be notified, take measures as necessary to prevent siltation of nearby water courses and work will be paid for as provided in the General Conditions.
- D. After installing erosion control devices, request an inspection by the local agency having jurisdiction and the Engineer.
- E. Incorporate permanent erosion control work into the project at the earliest practicable time. Coordinate temporary erosion control measures with permanent erosion control measures and other work on the project to assure effective and continuous erosion control throughout the construction and post construction period.
- F. Maintain erosion control devices during construction until the disturbed areas are stabilized and the agency having jurisdiction and the Engineer have approved the removal of the erosion control devices.

3.02 BORROW AND DISPOSAL AREAS:

- A. Obtain and pay for erosion control permit for borrow/disposal areas as required.
- B. Install and maintain erosion control devices in accordance with Contractor's approved plan.

3.03 MAINTENANCE

- A. Inspect erosion control devices after each rainfall. Make required repairs immediately. Remove sediment deposits when deposits reach approximately one-half of the capacity of the erosion control device.
- B. Respread accumulated sediments on the project site in a manner that will not adversely affect erosion control facilities and permanent ground cover.

- C. Silt Fence: Should the filter fabric decompose or become ineffective before approval of its removal by the Engineer, replace fabric immediately at no additional cost to the Owner.
- D. Temporary Construction Entrance: Maintain entrance in a condition that will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 2 inches of stone, as required, at no additional cost to the Owner.

3.04 SEEDING

- A. Disturbed areas not covered by new construction shall be seeded.
- B. Provide temporary and permanent seeding in accordance with Section, Lawns and Grasses.

3.05 STABILIZATION AND CLEAN-UP

- A. Remove erosion control devices upon the approval of the permanent stabilization of this site by the agency having jurisdiction of the area and the Engineer. Dress sediment deposits remaining in place after the erosion control devices are removed to conform to the existing grade, prepared and seeded. Include cost of removal and cleanup in the cost of the installation of the device.

3.06 SELF INSPECTION AND MONITORING

- A. Provide self-inspection and reporting as required by the Sedimentation Pollution Control Act for the duration of the project. These inspections will be performed to ensure that the approved sedimentation and erosion control measures on the Drawings are installed, maintained, and working adequately.
 - 1. The inspections need to be conducted after each phase of the project, and continue until permanent ground cover is established.
 - 2. The self-inspection forms and information regarding this program are available at the following website: <http://deg.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms>
 - 3. Documentation of inspections shall be recorded on a single copy of the approved erosion and sedimentation control drawings. These Drawings and inspection reports shall be made available at the project site.
- B. Provide weekly self-monitoring in accordance with the NPDES Stormwater permit for all construction activities.

END OF SECTION

SECTION 02530

SANITARY SEWER SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Work under this section includes, but is not limited to, piping, valves, and appurtenances for a complete sanitary sewer collection system.

1.02 RELATED SECTIONS

- A. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
 - 1. Section 02315 Trenching for Utilities

1.03 REFERENCES

- A. Publications are referred to in the text by basic designation only.
 - 1. American Society for Testing and Materials (ASTM)
 - a. A126 Gray iron Castings and Valves, Flanges and Pipe Fittings.
 - b. C361 Reinforced Concrete Low-Head Pressure Pipe.
 - c. C443 Flexible Watertight Joints for Precast Manhole Sections
 - d. C478 Precast Reinforced Concrete Manhole Sections
 - e. C828 Low-Pressure Air Test of Vitrified Clay Pipe Lines (4 to 12 inch)
 - f. C890 Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
 - g. C923 Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
 - h. C1244 Test Method for Concrete Sewer Manholes by the Negative Air Pressure
 - i. D1248 Polyethylene Plastics Molding and Extrusion Materials
 - j. D1784 Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
 - k. D2241 Poly(Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series)
 - l. D 2321 Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe
 - m. D2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Pipe
 - n. D3034 Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
 - o. D3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
 - p. D3350 Polyethylene Plastics Pipe and Fittings Materials
 - q. F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - r. F794 Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
 - s. F949 Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings
 - t. F894 Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
 - u. F1483 Specification for Oriented Poly(Vinyl Chloride) PVCO, Pressure Pipe

2. American Water Works Association (AWWA)
 - a. C104 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
 - b. C105 Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids
 - c. C110 Ductile-Iron and Gray-Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids
 - d. C115 Flanged Ductile-Iron Pipe with Threaded Flanges
 - e. C151 Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids
 - f. C153 Ductile-Iron Compact Fittings, 3 inch through 16 inch, for Water and Other Liquids
 - g. C504 Rubber-Seated Butterfly Valves
 - h. C507 Ball Valves, 6 inch through 48 inch
 - i. C508 Swing-Check Valves for Waterworks Service, 2 inch Through 24 inch NPS
 - j. C509 Resilient-Seated Gate Valves for Water Supply Service
 - k. C512 Air-Release, Air / Vacuum, and Combination Air Valves for Waterworks Service
 - l. C550 Protective Epoxy Interior Coatings for Valves and Hydrants
 - m. C600 Standard for Installation of Ductile Iron Water Mains and Their Appurtenances
 - n. C605 Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
 - o. C900 Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inch through 12 inch, for Water Distribution
 - p. C906 Polyethylene (PE) Pressure Pipe and Fittings 4 inch through 63 inch for Water Distribution
 - q. C909
 - r. M23 PVC Pipe - Design Installation
3. National Sanitation Foundation (NSF) Standards
 - a. 14 Plastic Piping Components and Related Materials
4. UNI-BELL Plastic Pipe Association (UNI)
 - a. B-5 Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe
 - b. B-6 Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe

1.04 SUBMITTALS

- A. Submit the following in accordance with Section, Submittal Procedures:
 1. Affidavit of Compliance: Affidavit shall attest that supplied products conform to the referenced standard and this specification and that tests set forth in each applicable referenced publication have been performed and that test requirements have been met. Submit for each of the following materials:
 - a. Pipe
 - 1) Ductile iron
 - 2) Polyvinyl Chloride (PVC) pressure pipe
 - i) AWWA C900
 - ii) AWWA C909 Oriented PVC
 - iii) ASTM F1483 Oriented PVC
 - iv) Pressure rated

- 3) Polyvinyl Chloride (PVC) gravity sewer pipe
- b. Pre-cast concrete manholes
- c. Valves
 - 1) Resilient-seated gate
 - 2) Plug
 - 3) Check
 - 4) Air Release
- 2. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following. Clearly indicate equipment to be furnished for the Project including options to be provided.
 - a. Pipe
 - 1) Ductile iron
 - 2) Ductile Iron with restrained joints
 - 3) Polyvinyl Chloride (PVC) pressure pipe
 - i) AWWA C900
 - ii) AWWA C909 Oriented PVC
 - iii) ASTM F1483 Oriented PVC
 - iv) Pressure rated
 - 4) Polyvinyl Chloride (PVC) gravity sewer pipe
 - i) SDR 35
 - b. Pre-cast Concrete Manholes and the following appurtenances:
 - 1) Manhole steps
 - 2) Pipe connectors
 - 3) Joint material
 - 4) Castings
 - c. Service saddles
 - d. Valves
 - 1) Resilient-seated gate
 - 2) Plug
 - 3) Check
 - 4) Air Release
- 3. Reports:
 - a. Field test report for each section of pipe for the following:
 - 1) Pressure test for force mains.
 - 2) Low-pressure air test for gravity mains.
 - 3) Vacuum test for manholes.
- 4. Operation and Maintenance Instructions: Submit complete operation and maintenance manual for the following:
 - a. Valves.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Provide a suitable pipe hook or rope sling when handling the pipe with a crane. Lifting of the pipe shall be done in a vertical plane. Under no conditions shall the sling be allowed to pass through the pipe unless adequate measures are taken to prevent damage to both tongue and groove ends.
- B. Deliver pipe in the field as near as practicable to the place where it is to be installed. Distribute pipe along the side of the trench opposite to the spoil bank. Where necessary to move the pipe longitudinally along the trench, it shall be done in such a manner as not to injure the pipe or coating.

- C. Shield PVC pipe and fittings stored on site from the sun's ultraviolet rays by suitable cover, or indoor storage.

PART 2 PRODUCTS

2.01 DUCTILE-IRON PIPE

- A. Pipe and fittings shall conform to the following requirements:
 - 1. Size shall be as indicated on the Drawings.
 - 2. Suitable for a system working pressure of 40 psi.
 - 3. Interior of pipes and fitting shall be Protecto 401 lined per Section, Sanitary Sewer Pipe Liner.
- B. Ductile-iron pipe for below ground service shall have push-on or mechanical joints, unless noted otherwise on the Drawings, conform to AWWA C151, and to the following requirements:
 - 1. Pipe thickness class shall be suitable for a laying condition as specified in Section, Trenching for Utilities, at the depth indicated on the Drawings, and at the system working pressure specified above.
 - 2. Provide mechanical joint fittings, unless noted otherwise on the Drawings.
- C. Ductile-iron pipe for above ground service shall have flanged joints, unless noted otherwise on the Drawings, and conform to AWWA C115.
 - 1. Pipes to be painted shall have only a shop primer on the outside by the manufacturer. Verify that proposed manufacturer's primer is compatible with the proposed paint system.
- D. Fittings for ductile-iron pipe shall conform to AWWA C110, or C153 and to the following requirements:
 - 1. Joint type shall be as specified above for the supplied ductile-iron pipe.
 - 2. Fittings shall be made of gray-iron or ductile-iron.
- E. Ductile iron pipe on piers shall have Mech-Lok™ rigid restrained joint by Griffin Pipe Products Co. or approved substitute. Provide necessary expansion couplings as recommended by Pipe Manufacturer and approved by Engineer.
- F. Special Pipe Joints
 - 1. Restrained
 - a. Provide restrained joint pipe at fittings and valves where indicated on the Drawings. Length of restrained pipe shall be as shown. Restrained joints shall be Snap-Lok (Griffin Pipe), Flex Ring and Lok-Ring (American), TR Flex (U.S. Pipe) or approved equal.
 - b. Restrained joint pipe and fittings shall meet all AWWA standards and other requirements as specified above for standard ductile iron pipe and fittings unless addressed herein.
 - c. Field made joints are allowable but should be avoided where possible. Careful planning to locate field cuts in standard pipe sections is preferred. For field made joints in restrained piping, use field weldments or an insert equal to TR Flex Gripper Rings or approved equal. Gasket type field made joints will not be allowed.
 - d. Restrained joint fittings shall be provided by the restrained joint pipe supplier where located within restrained joint pipe sections. Fittings shall be of the same model / type as the pipe supplied from the pipe manufacturer.

- e. Restrained joint fittings may be push-on joint type.
- f. Megalugs, Series 1100, as manufactured by EBAA Iron Sales or approved equal shall be allowable for restraint where fittings or valves are not available with restrained joints from the pipe manufacturer.
- g. Where additional fittings/valves are required and not shown on Drawings, consult with Engineer for length of restrained joint pipe necessary each side of fittings/valve prior to installation of pipe/fitting.
- h. Contractor shall develop a field layout schedule and drawing for restrained joint pipe installations.

2.02 POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE

A. General

- 1. Pipe and fitting size shall be as indicated on the Drawings.
- 2. PVC materials shall comply with ASTM D1784 with a cell classification of 12454-B.
- 3. Pipe shall have an integral elastomeric-gasket bell end. Gaskets shall be in conformance with ASTM F477.
- 4. See Section, Trenching for Utilities, for trench bedding and haunching requirements.

B. SDR 35: PVC SDR 35 gravity sewer pipe 4-inch to 15-inch and related fittings shall conform to ASTM D-3034 and the following requirements:

- 1. Pipe shall have standard dimension ratio of SDR 35.
- 2. Nominal pipe length shall be a minimum of 13 feet.

2.03 MANHOLES

A. Provide manholes made of precast concrete sections in conformance with ASTM C478, NC Department of Transportation, and the following requirements:

1. General

- a. Provide manholes to the depth as indicated on the Drawings. Manhole inside diameter shall be 4 feet unless noted otherwise on the Drawings.
- b. Precast concrete manholes shall be as manufactured by Adams Concrete, Carolina Precast Concrete, Inc., D & M Concrete Specialties, Inc., N. C. Products Corp., Stay Right Tank, Tindall Concrete Products, Inc. or approved substitute.

2. Precast Concrete Sections

- a. Minimum wall thickness shall be 5-inches.
- b. Base: Cast monolithically without construction joints or with an approved PVC waterstop in the cold joint between the base slab and the walls. The width of the base extensions on Extended Base Manholes shall be no less than the base slab thickness.
- c. Riser: Minimum lay length of 16 inches.
- d. Eccentric Cone: Top inside diameter shall be 24 inches. Width of the top ledge shall be no less than the wall thickness required for the cone section.
- e. Transition Cone: Provide an eccentric transition from 60-inch and larger manholes to 48-inch diameter risers, cones, and flat slab top sections. Minimum slope angle for the cone wall shall be 45 degrees.
- f. Transition Top: Provide an eccentric transition from 60-inch and larger manholes to 48-inch diameter risers, cones, and flat slab top sections. Transition Top sections shall be furnished with vents as shown on the manhole details. Tops shall not be used in areas subject to vehicle traffic.

- g. Flat Slab Top: Designed for HS-20 traffic loadings as defined in ASTM C890. Items to be cast into Special Flat Slab Tops shall be sized to fit within the manhole ID and the top and bottom surfaces. Provide a float finish for exterior slab surface.
 - h. Precast or core holes for pipe connections. Diameter of hole shall not exceed outside diameter of pipe by more than 3-inches.
 - i. Grade Rings: May be used to adjust frame and cover to finished grade. Grade Rings shall be no less than 4 inches in height.
 - j. Lifting Devices: Devices for handling precast components shall be provided by the precast manufacturer and comply with OSHA Standard 1926.704.
3. Joints
- a. Manufacturer in accordance with tolerance requirements of ASTM C 990 for butyl type joints.
 - b. Minimize number of joints. Do not use riser section for manholes up to 6 feet tall and no more than one riser for each additional 4 feet in height.
 - c. Flexible Joint Sealants: Preformed butyl rubber based sealant material conforming to Federal Specification SS-S-210A, Type B and ASTM C990.
 - d. External Seal: Polyethylene backed flat butyl rubber sheet no less than 1/16-inch thick and 6-inches wide.
4. Inverts
- a. Brick and mortar or precast concrete invert.
 - b. Form and finish invert channel to provide a consistent slope from inlet(s) to outlet up to 4-inches.
 - c. Channel walls shall be formed to 3/4 of the height of the outlet pipe diameter.
 - d. Finish benches with a minimum uniform 1.5:12 slope. Provide a 1/4-inch radius at the edge of bench and trough.
5. Flexible Pipe Connectors: Provide flexible connectors for pipe to manhole that conform to ASTM C923. Location of connectors shall vary from Project Drawings no more than 1/2-inch vertically and 5 degrees horizontally. Provide stainless steel pipe clamp type band around flexible connection to sewer pipe.
6. Manhole Steps:
- a. Steps shall be in accordance with ASTM C478 and made of 1/2-inch grade 60 steel encapsulated by co-polymer polypropylene and have serrated tread and tall end lugs.
 - b. Secure steps to the wall with compression fit in tapered holes or cast-in-place. Align steps along a vertical wall and shall not be located over a pipe opening. First step shall be a maximum of 26 inches from the bottom.
 - c. Steps shall be by American Step Co., Inc., Bowco Industries, Inc., M. A. Industries, Inc. or approved substitute.

2.04 CASTINGS

A. General

- 1. Made of gray iron, ASTM A-48 - class 30, or ductile iron, ASTM A536, grade 65-45-12.
- 2. Castings shall be free from imperfections not true to pattern. Casting tolerances shall be plus or minus 1/16-inch per foot of dimension. Top shall set neatly in frame, with edges machined for even bearing and proper fit to prevent rattling and flush with the edge of frame.
- 3. Castings shall be as manufactured by Neenah Foundry Co., U.S. Foundry & Manufacturing Corp., or Vulcan Foundry

- B. Manhole Frame and Cover:
 - 1. Minimum clear opening shall be 22 inches.
 - 2. Minimum weight for frame and cover shall be 300 pounds and suitable for Heavy Duty Highway Traffic Loads of H-20.
 - 3. Frame shall have four 3/8-inch anchor bolt holes equally spaced.
 - 4. Cast "Sanitary Sewer" on the cover. Casting shall bear the name of the manufacturer and the part number.
 - 5. Provide solid cover.
 - 6. Provide cover with two 1-inch perforated holes unless noted as watertight on the Drawings.
 - 7. Provide the following where indicated on the Drawings:
 - a. Ring and cover shall be watertight.
 - b. Bolt down cover. Bolt down covers shall be provided with four (4) 3/8-inch stainless steel hex head bolts at 90 degrees.

PART 3 EXECUTION

3.01 GENERAL

- A. Pipe installation shall meet the following general guidelines:
 - 1. Lay pipe in the presence of Engineer, unless specifically approved otherwise.
 - 2. Handle pipe and accessories in accordance with manufacturer's recommendations. Take particular care not to damage pipe coatings.
 - 3. Carefully inspect pipe immediately prior to laying. Do not use defective pipe. Replace pipe damaged during construction.
 - 4. Lay pipe to grade and alignment indicated on the Drawings.
 - 5. Provide proper equipment for lowering pipe into trench.
 - 6. Provide tight closure pipe ends when work is not in progress.
 - 7. Keep pipe interior free of foreign materials.
 - 8. Do not lay pipe in water or when the trench or weather conditions are unsuitable for the work.
 - 9. Clean bell and spigots before joining. Make joints and lubricate gasket in accordance with pipe manufacturer recommendation.
 - 10. Block fittings with concrete, or restrained as indicated on the Drawings or as required to prevent movement.
- B. Gravity Pipe: Gravity pipe installation shall meet the following general guidelines:
 - 1. Lay pipe upgrade from the lower end and at the grades and alignment indicated on the Drawings.

3.02 RELATION OF WATER MAINS TO SEWERS

- A. Lateral Separation: Lay water mains at least 10 feet laterally from existing and proposed sewers. Where existing conditions prevent a 10-foot lateral separation, the following shall be followed with approval of the Engineer:
 - 1. Lay water main in a separate trench, with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
 - 2. Lay water main in the same trench as the sewer with the water main located at one side on a bench of undisturbed earth, and with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
- B. Crossing Separation: Lay bottom of water main at least 18 inches above the top of the sewer. Where existing conditions prevent an 18-inch vertical separation,

construct both the water main and sewer of ferrous materials and with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing.

- C. Crossing a Water Main Under a Sewer: When it is necessary for a water main to cross under a sewer, construct both the water main and the sewer of ferrous materials and with joints equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.

3.03 SEWER PIPE

- A. Lay sewer pipe to true lines and grades by use of laser beam equipment or other acceptable means.
- B. Minimum Separation Distances:
 - 1. 100-foot horizontal separation from wells or other water supplies.
 - 2. 24-inch vertical separation from storm sewers or ferrous pipe shall be used.
 - 3. For separation from water mains see paragraph 3.02 above.

3.04 DUCTILE IRON PIPE

- A. Install pipe in conformance with AWWA C600 and the following:
 - 1. For laying pipe in a vertical or horizontal curve, each full-length pipe may be deflected by the following offset distance:
 - a. Push-on joint
 - 1) 3 to 12-inch pipe: 14-inch offset
 - 2) 14 to 36-inch pipe: 8-inch offset
 - b. Mechanical joint
 - 1) 3 to 6-inch pipe: 20-inch offset
 - 2) 8 to 12-inch pipe: 15-inch offset
 - 3) 14 to 20-inch pipe: 8-inch offset
 - 4) 24 to 36-inch pipe: 6-inch offset
 - 2. For laying restrained joint pipe in a vertical or horizontal curve, except for horizontal directional drills (HDD), each full-length pipe may be deflected by the following offset distance:
 - a. 6 to 12-inch pipe: 11-inch offset
 - b. 16 to 20-inch pipe: 7-inch offset
 - c. 24 to 30-inch pipe: 5-inch offset
 - d. 36-inch pipe: 4-inch offset
 - e. 42 to 48-inch pipe: 1 ¼ -inch offset

3.05 VALVES AND FITTINGS

- A. Install buried valves on top of an 18-inch square, 3-inch thick, solid concrete pad (minimum dimensions). The concrete pad may be provided by a pre-cast manufacturer or cast-in-place in the field above grade. Concrete used for the pads shall be a minimum 3,000 psi mix. The pads may not be cast-in-place in the pipe trench. Connection to pipe shall be such that there shall be no stress at the joint caused by misalignment or inadequate support of pipe or valve.
- B. Install fittings as recommended by the manufacturer. Fittings shall be blocked or otherwise restrained from movement.

- C. Valve Boxes: Set valve boxes flush with finished grade. Box shall be supported so that no stress shall be transmitted to the valve. Operating nut shall be centered in box.
- D. Install valves, gates, and accessories indicated on the Drawings and in complete accordance with the manufacturer's recommendations.
- E. Valve boxes shall be set straight with the operating nut centered and supported on (2) 4" concrete blocks, to prevent load transfer onto valve body or pipe line. Set top of box at finished grade. Provide a 24-inch x 24-inch wide by 6-inch thick concrete pad at top of valve boxes outside paved areas.

3.06 AIR VALVES

- A. Main shall be drilled for a two-inch connection.
- B. Valve shall be installed on the main line with a service saddle.
- C. Install air valve in a flat top manhole.

3.07 MANHOLES

- A. Set base plumb and level. Align manhole invert with pipe invert.
- B. Secure pipe connectors to pipe in accordance with manufacturer's recommendation.
- C. Clean bells and spigots of foreign material that may prevent sealing. Unroll the butyl sealant rope directly against base of spigot. Do not stretch. Follow manufacturer's instructions when using O-ring seals.
- D. Set precast components so that steps align.
- E. Plug lift holes using a non-shrink grout. Cover with a butyl sealant sheet on the outside and seal on the inside with an application of an epoxy gel 1/8-inch thick extending 2 inches beyond the opening.
- F. Set manhole frames to grade with grade rings. Seal joints between cone, adjusting rings, and manhole frame with butyl sealant rope and sheet.
- G. Apply external seal to the outside of joint.
- H. Finish the interior by filling fractures greater than 1/2-inch in length, width or depth with a sand cement mortar.
- I. Clean the interior of the manhole of foreign matter.

3.08 PAINTING

- A. Equipment shall receive the manufacturer's standard coating for the intended application. Coatings shall be suitable for the intended application.
- B. Repaint damaged paint services.
- C. Above ground piping and piping within vaults shall be painted in accordance with Section, Painting.

3.09 TESTING

- A. General
 - 1. Clean and flush pipe system of foreign matter prior to testing.
 - 2. Notify Owner and Engineer a minimum of 48 hours prior to testing.
 - 3. Perform tests in the presence of Engineer.

4. Length of line to be tested at one time shall be subject to approval of Engineer.
5. Pipe sections shall not be accepted and placed into service until specified test limits have been met.
6. Repair defects in the pipe system. Make repairs to the same standard as specified for the pipe system.
7. Retest repaired sections until acceptance.
8. Repair visible leaks regardless of the test results.
9. All pipe shall be inspected by CCTV prior to acceptance. Contractor shall provide a digital copy of all CCTV records.

B. Gravity Sewer Mains

1. Test gravity lines between manholes.
2. Light Testing: Engineer will check for displacement of pipe as follows:
 - a. A light will be flashed between the ends of the pipe section being tested.
 - b. If the illuminated interior shows misalignment, or other defects as designated by Engineer, defects shall be repaired.
3. General
 - a. Infiltration shall not exceed 100 gallons per inch of diameter, per mile of pipe, per 24 hours. Engineer may require flow measurement for verification of infiltration.
 - b. Verify that maximum infiltration rate shall not be surpassed by air testing as follows.
4. Low Pressure Air Test:
 - a. Air testing of sewer mains shall conform to UNI-B-6 and the following requirements:
 - b. Perform initial air test when each section of main is complete including services to right of way. Test as construction proceeds.
 - c. Wet interior surfaces of porous pipe material prior to testing.
 - d. Safety
 - 1) Provide a superintendent who has experience in low pressure air testing of gravity sewer mains.
 - 2) Follow safety recommendations of air testing equipment manufacturer.
 - 3) Properly brace sewer plugs during testing. Test plugs prior to use in air testing.
 - 4) No one shall be allowed in manhole or trench when pipe is under pressure.
 - 5) Pressurizing equipment shall include a regulator and a pressure relief valve, which are set no higher than 9 psig. Monitor gauges continuously to assure that the pressure does not exceed 9 psig.
 - e. Equipment
 - 1) Sewer plugs shall be specifically designed for low pressure air testing.
 - 2) Use two separate air hoses.
 - i) One to connect the control panel to the sealed line for introducing the air.
 - ii) One from the sealed line to the control panel to provide constant monitoring of the air pressure in the line.
 - iii) If Pneumatic plugs are used a separate line shall be used to inflate the plugs.
 - 3) As a minimum the above ground air testing equipment shall include a shutoff valve, pressure regulating valve, pressure relief valve, input

- pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to at least 10 psig.
- 4) Continuous monitoring pressure gauge shall be at least 4 inches in diameter with minimum divisions of 0.10 psi and an accuracy of +/- 0.04 psi.
 - 5) Monitoring gauges shall be subject to calibration as deemed necessary.
 - 6) Air used for testing shall pass through a single above ground control panel.
- f. Testing
- 1) Groundwater Determination: Immediately prior to each air test, determine groundwater level by a method acceptable to the Engineer. Adjust pressure used in air test in accordance with groundwater level.
 - 2) Apply air slowly to the test section until the pressure reached is 4.0 psi plus an adjustment of 0.433 psi for each foot of ground water above the crown of the pipe. Internal air pressure, including adjustment for ground water, should never exceed 9.0 psi.
 - 3) When the above required pressure is reached, throttle air supply to maintain internal pressure for at least two minutes to permit stabilization.
 - 4) When pressure has stabilized at required pressure, shut off air supply.
 - 5) While observing the continuous monitoring pressure gauge, decrease pressure approximately 0.5 psi from required pressure.
 - 6) At this reading timing shall commence with a stop watch and allowed to run until pressure has dropped 1.0 psi or allowable time has lapsed. Line shall be "Acceptable" if the pressure drop does not exceed 1 psig in the time prescribed for the test in Table 1, Low Pressure Air Testing for Gravity Sewer Mains, at the end of this section.
5. Deflection Test for SDR 35 and Ribbed (ASTM F 949) PVC pipe.
- a. Measure for deflection of pipe no sooner than thirty days after installation and backfill.
 - b. Deflection shall not exceed 5 percent of pipe diameter. Maximum allowable long-term deflection shall be 5 percent.
 - c. Measure deflection with an approved "GO-NO-GO GAUGE" method or by an approved recording deflectometer. Verify gauge on site prior to testing.
6. Hydrostatic Test for Gravity Sewers
- a. The source, quality, and method of disposal of water to be used in test procedures shall be approved by the Engineer.
 - b. Obtain Owner's permission 48 hours prior to filling or flushing of pipe system with water from Owner's water system. Owner of water system shall operate valves connected to the existing water system.
 - c. Air test line, as described above, prior to hydrostatic testing.
 - d. Provide taps for filling and pressurizing the line. Service corporation stops may be used. Include cost of taps in price of testing. Leave corporation stops in place after testing and note locations on As-Built Drawings.
 - e. Suitable means for thrust restraint shall be installed for testing.
 - f. Test for each manhole reach.
 - g. Test pipe by maintaining for a two-hour period a hydrostatic pressure of 150 psig.
 - h. Test pressure shall not vary by more than +/- 5 psi for the duration of the test.

- i. Pressure test in accordance with AWWA C600 for ductile iron pipe and as described above.
 - j. Hydrostatic testing for gravity sewers within 100 feet of a water supply well shall be paid for as described in Section, Basis for Payment.
- C. Vacuum test each manhole in accordance with ASTM C1244 and the following:
 - 1. No personnel shall be allowed in manhole during testing.
 - 2. Test manhole after assembly and prior to backfilling.
 - 3. Plug pipes with suitably sized and rated pneumatic or mechanical pipeline plugs. Brace plugs to prevent displacement.
 - 4. Position vacuum test head assembly to seal against interior surface of the top of cone section in accordance with manufacturer's recommendation.
 - 5. Draw vacuum of 10 inches of mercury on manhole. Shut off the vacuum pump and close valve on vacuum line.
 - 6. Measure time for vacuum to drop to 9 inches of mercury. Manhole shall pass if time meets or exceeds the following:

Manhole I.D. (inches)	48	60	72	84	96	120
Seconds	60	75	90	105	120	150
 - 7. If manhole fails test, remove head assembly, coat interior with a soap and water solution, and repeat vacuum test for approximately 30 seconds. Leaking areas will have soapy bubbles. Make necessary repairs to the satisfaction of Engineer and repeat test until manhole passes.

END OF SECTION

SECTION 02920

LAWNS AND GRASSES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Work shall include, but not be limited to, the following:
 - 1. Surface preparation of subsoil.
 - 2. Placing topsoil.
 - 3. Addition of lime and fertilizer.
 - 4. Seeding.
 - 5. Maintenance to produce a permanent stand of grass.

1.02 PAYMENT PROCEDURES

- A. Base bid for the work on the specified quantities of lime, fertilizer, and seed. After the specified soil tests have been made, Engineer may vary specified quantities. Should the actual quantities applied in the field vary appreciably from those specified, an adjustment in the contract price may be made.

1.03 REFERENCES

- A. N.C. Department of Agriculture - NCDA
- B. U.S. Department of Agriculture - USDA

1.04 PERFORMANCE REQUIREMENT

- A. Grassed area shall be considered established when it presents a green appearance from eye level 50 feet away and the grass is vigorous and growing well in each square foot of seeded area. It is not required that the seeded area be thick and heavy as an old established lawn.
- B. Should the permanent seed not germinate and produce a strand of grass, reseed affected areas until a permanent stand is established.

1.05 SUBMITTALS

- A. Not less than 6 weeks prior to seeding, obtain representative soil samples from areas to be seeded and deliver the properly packaged samples with an information sheet for each sample properly filled out to the Soils Division of the NC Department of Agriculture or a private laboratory. Based on the test results, submit to the Engineer a recommendation as to the quantity and type of lime, fertilizer and seed for the area covered by the test.

1.06 QUALITY ASSURANCE

- A. Quality of fertilizer, lime, and seed, and operations in connection with the furnishing of this material, shall comply with the requirements of the N.C. Fertilizer, Lime and Seed Law; and with the requirements of the rules and, regulations adopted by the NC Department of Agriculture in accordance with the provisions of the said law.
- B. Seed containers shall bear an official "Certified Seed" label as inspected by the N.C. Crop Improvement Association.
- C. Packages for soil conditioners and fertilizer shall bear manufacturer's guaranteed analysis.

- D. Do not apply lime, fertilizer or seed in strong wind, when the soil is extremely wet, or otherwise unworkable. No rolling shall be done if precipitation after seeding would make the operation detrimental to the seed bed.

1.07 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver grass seed mixture in sealed containers showing percentage of seed mix, year of production, net production, net weight, date of packaging, and location of packaging.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.08 MAINTENANCE SERVICE

- A. Maintain seeded areas until grass is well established and exhibits a vigorous growing condition for a minimum of two cuttings. Mow grass at regular intervals to a maximum height of 3 inches. Hand clip where necessary.
- B. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions.
- C. Water areas seeded between May 1 and July 15 at such intervals as to maintain the seeded area in a moist condition until the grass is established and accepted by the Engineer. Provide equipment to transport and distribute the water to the seeded areas. Areas seeded between September 1 and November 1 need not be irrigated beyond the initial watering specified above except that the Contractor may apply water at his own discretion.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds, and roots; pH value of minimum 5.4 and maximum of 7.0.
- B. Lime: Ground Dolomitic agricultural limestone, not less than 85 percent total carbonates, ground so that 50 percent passes 100 mesh sieve and 90 percent passes 30 mesh sieve. Coarser material will be acceptable, provided the specified rates of application are increased proportionately on the basis of quantities passing No. 100 mesh sieve.
- C. Fertilizer: Mixed, commercial, fertilizer containing 10-10-10 percentages of available nitrogen, phosphoric acid, and potash respectively, plus superphosphate with 20 percent P₂O₅ content. Fertilizer shall be dry, in granular (pellet) form, shall be delivered to the site in the manufacturer's original bag or container which shall be plainly marked as to formula.
- D. Seed: Fresh seed guaranteed 95 percent pure with a minimum germination rate of 85 percent within one year of tests. Provide the following seed mixtures with lime and fertilizer in disturbed areas including NCDOT Rights-of-Way:
 - 1. Seeding schedule shall be per detail on the Drawings.
 - 2. Seedbed preparation including agricultural lime, fertilizer, super-phosphate, mulch and anchor shall be per the detail on the Drawings.

- E. Matting / Erosion Control Fabric (ECF): Matting and ECF shall be heavy jute mesh over mulch held in place by staples. Commercially available ECFs may be used upon approval of the engineer. Approval of fabrics will require manufacturer's design data regarding velocity, ditch slopes, method of installation, decay cycle, repair techniques, and grass growth enhancement characteristics.
- F. Wire Staples: 16 gauge steel wire, with minimum of 3" top and 4" long legs.
- G. Mulch: Threshed straw of oats, wheat, or rye; free from seed of obnoxious weeds; or clean salt hay. Straw which is fresh and excessively brittle or straw which is in such an advanced stage of decomposition as to smother or retard growth of grass will not be acceptable.
- H. Water: Water shall be free from substances harmful to growth of grass.

PART 3 EXECUTION

3.01 PREPARATION OF SUBSOIL

- A. Seedbed preparation shall be per the detail on the Drawings.
- B. Complete operations in the area to be seeded and prepare subsoil to eliminate uneven areas and low spots. Bring surface to the approximate design contours.
- C. Scarify subsoil to a depth of 3 inches. Remove weeds, roots, stones and foreign materials 1-1/2 inches in diameter and larger.

3.02 PLACING TOPSOIL

- A. Place topsoil during dry weather and on dry unfrozen subsoil.
- B. Spread topsoil to a minimum depth of 4 inches. Remove vegetable matter and foreign non-organic material from topsoil while spreading. Grade surface to provide positive drainage and prevent water ponding. Lightly compact topsoil with at least one pass of a cultipacker or similar equipment
- C. Maintain the finished surfaces by protecting, and replacing topsoil and subsoil as necessary until the area is accepted under the contract.

3.03 APPLICATION OF LIME

- A. Liming shall be done immediately after grading has reached the fine grading stage, even though actual seeding may not be done until several months later.
- B. Spread lime evenly by means of a mechanical distributor.
- C. When lime is distributed by commercial liming dealers, sales slips showing the tonnage delivered shall be filed with the Engineer and shall show the full tonnage required for the acres treated.
- D. Incorporate lime in the top 2 to 3 inches of soil by harrowing, disking, or other approved means.

3.04 APPLICATION OF FERTILIZER

- A. Spread fertilizer not more than 2 weeks in advance of seeding.
- B. To verify application rate, determine acreage to be fertilized and provide Engineer with total weight of fertilizer applied to the area.

- C. Provide mechanical spreader for even distribution and spread half of the rate in one direction, and the other half at right angles to the first. Mix thoroughly into upper 2 to 3 inches of soil by disking, harrowing or other approved methods.

3.05 SEEDING

- A. Accomplish seeding by means of an approved power-drawn seed drill, combination corrugated roller-seeder, approved hand operated mechanical seeder, or other approved methods to provide even distribution of seed.
- B. Do not seed when ground is excessively wet or excessively dry. After seeding, roll area with a roller, not less than 18 inches in diameter and weighing not more than 210 pounds per foot of width. Upon completion of rolling, water area with a fine spray.
- C. Immediately following seeding apply mulch or matting. Do not seed areas in excess of that which can be mulched on same day.
- D. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil depth

3.06 MULCHING AND MATTING

- A. Apply mulch or matting as required to retain soil and grass, but no less than the following:
 - 1. Slopes from 0 to 20 percent by spreading a light cover of mulch over seeded area at the rate of not less than 85 lbs. per 1000 sq. ft.
 - 2. Slopes greater than 20 percent mulch with matting. Pin matting to the ground with wire staples at 5 foot intervals, immediately after seeding.
 - 3. Use tack to prevent disruption of mulch.
- B. For tack use an asphalt tie-down of emulsified asphalt grade AE-3 or cut-back asphalt grade RC-2 or other approved equal. The application rate shall be 0.10 gal/sy (11 gal / 1000 sq ft). An approved jute mesh or net may be used in lieu of tacking straw mulch.
- C. Other types of mulch and anchoring methods may be used upon approval by the Engineer.

3.07 PROTECTION

- A. Protect seeded areas from damage by barricades, signs, and other appropriate means. Maintain and protect slopes from weather damage.

END OF SECTION

SECTION 01100

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work described in this Project Manual includes the provision of labor, materials, equipment, and services required to complete the James Street Sewer and Road Improvements Project for the Town of Apex, North Carolina.

1.02 CONTRACTS

- A. Project construction will be let under one Contract with construction including, but not limited to, the following major work items:
 - 1. Approximately 885 linear feet of 8-inch PVC gravity sewer, 38 linear feet of 8-inch Ductile Iron gravity sewer.
 - 2. Installation of Pre-Cast manholes.
 - 3. Asphalt paving & milling
 - 4. Sidewalk and curb & gutter replacement.
 - 5. Clearing, Grubbing, and Erosion Control.
 - 6. Traffic Control.

1.03 WORK SEQUENCE

- A. Construction Progress Schedule, as required in Section, Submittal Procedures, shall indicate the anticipated items and times that the Work will interfere with normal facility operation.
- B. Contractor shall not allow bypassing of sewage during construction. Construction activities that interfere with normal operation of the existing facilities shall be specifically noted on construction schedule. For each of these activities, provide a detailed construction sequence, which shall prevent bypassing of the sewage.

1.04 OWNER OCCUPANCY

- A. Owner will occupy site during entire period of construction.
- B. Contractors shall cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

1.05 CONTRACTOR USE OF SITE

- A. Work is located within Right-of-Way of the Town of Apex. Requirements of the owners of the rights-of-way must be complied with and specifically as required in the permits attached to Section, Supplementary General Conditions.
- B. Contractor's use of the site during the construction period may be limited by Owner's necessity to operate the existing facilities.

PART 2 PRODUCTS

Not Used

PART 3 SPECIFICATIONS

3.01 PROJECT SPECIFICATIONS

Contractor shall perform the services in accordance with the attached documents specified below which are hereby incorporated into this Agreement:

1. Plan sheets
2. Town of Apex Standard Specifications and Standard Details
3. NCDOT 2018 Standard Specifications for Roads and Structures
4. NCDOT 2018 Roadway Standard Drawings
5. US DOT Manual on Uniform Traffic Control Devices, including any NC Supplement

END OF SECTION

SECTION 01270

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Delineation of measurement and payment criteria applicable to Work performed under Contract by the unit price payment method.

1.02 FIELD MEASUREMENT

- A. Take measurements and compute quantities for submittal of the monthly pay request unless specified otherwise in the measurement paragraphs as indicated in this Section.

1.03 CHANGE IN QUANTITIES

- A. Increase in the quantity of a bid item above what is indicated in the Bid Form shall only be made by a Change Order as required by the Contract Documents.
- B. A final adjusting Change Order shall be made for adjustment of the actual quantities installed prior to submittal of the final pay request.

1.04 GENERAL

- A. Items with a "(X)" in the title of the following bid items represents the size or depth as indicated on the Bid Form.
- B. Method of measurement for the individual Bid Items shall be as specified below.
- C. Payment for each item shall be in accordance with the Contract Unit Price times the number of units installed in accordance with the Contract Documents.
- D. Work for each bid item shall include, but not be limited to, the work listed below and the labor, materials, equipment, and services required and reasonably implied by the Contract Documents for a complete installation.
- E. Administrative cost including, but not limited to, mobilization, bonds, insurance, shop drawing submittal, project signage, video and photographic records, coordination of construction activities (including but not limited to updating master construction schedule, providing weekly tasks schedule, coordination with owner, engineer, utility providers, permitting agencies, etc.), as-built documentation, construction trailers, and office administration for the Project construction shall be included in the individual unit price items.

1.05 MOBILIZATION

- A. Measurement shall not be made for this item.
- B. Work shall include administrative cost including, but not limited to, mobilization, bonds, insurance, project signage, shop drawing submittal, as-built documentation, and construction trailers. General office administration for the Project construction shall be included in the individual unit price items.
- C. Bid Price for Mobilization shall not exceed 3 percent of the total bid. Half of the mobilization may be requested on the first pay request and the remainder on the second.

1.06 TRAFFIC CONTROL

- A. Measurement shall not be made for this item.
- B. Work: Provide traffic control including, but not limited to, traffic control equipment, flagman, signage, moving control devices, and establishing detours with Town and NC DOT.
- C. Bid Price for Traffic Control may be invoiced monthly as a percentage of the work complete to date.

1.07 UTILITY PIPING

- A. Measurement: Measure horizontally or from station to station as shown or indicated on the Drawings for the various types and sizes of pipes installed.
 - 1. (X) inch Sanitary Sewer, Depth (X)-(X) ft: Measure pipe from center to center of manholes. No deduction will be made for space occupied by manholes. Measure depth of pipe vertically from pipe invert to original grade as shown on the Drawings.
- B. Work shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1. Clearing and grubbing where necessary.
 - 2. Traffic control.
 - 3. Temporary removal and restoration or temporary support of, but not limited to, existing mail boxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 4. Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 5. Installation of warning / identification tape over utilities.
 - 6. Installation of tracer wire on non-metallic utilities.
 - 7. Temporary support and protection of existing underground facilities.
 - 8. Pipe, concrete blocking and encasement, connection to existing piping, and fittings.
 - 9. Flushing and testing.
 - 10. Repair to damaged new and existing utilities.
 - 11. Repair to asphalt and concrete paved surfaces including curb and gutter. Repair to gravel drives.
 - 12. Adjust existing and new manhole and valve boxes to finished surface elevations.
 - 13. Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Patching of Asphalt and Concrete Pavement."
 - 14. Grade disturbed areas to original surface profile prior to seeding.
 - 15. Clean up and seeding.
- C. Payment: The first Application for Payment will be approved based on the utilities installed during the agreed upon payment period without testing. Subsequent Application for Payments shall not be approved by the Engineer unless utilities installed during the previous payment period have passed the specified tests and clean up and seeding is complete.

1.08 BID ITEMS LISTED BY THE UNIT "EACH" (EA)

- A. Measurement: By the number installed.

- B. Sanitary sewer work items:
 - 1. Sanitary Sewer Service: Excavation, backfilling, and compacting, service pipe and fittings from main to right-of-way or the location as indicated on the Drawings, tap to main and service saddle, and vertical cleanout to grade with concrete collar.
 - 2. Existing Sanitary Sewer Service Connection to New Sewer Main: Location of existing sewer service, excavating, backfilling, and compacting, new service pipe from existing pipe to new main, direct bore under road as required, tap to new main with service saddle. Provide fittings as necessary.
 - 3. Abandonment of Existing Manhole: Excavation around existing manhole. Removal and disposal of top cone section. Grouting of 10 feet of sewer main to be abandoned coming into manhole. Backfill remaining cone section and continue to existing ground service in accordance with specifications.
 - 4. Tie into Existing Manhole: Coring of existing manhole, pipe boot, reworking of existing manhole bottom if necessary, and temporary by-passing of sewer if necessary.
- C. Erosion control work items:
 - 1. Erosion Control Matting: Provide matting at locations as directed by the Engineer.
 - 2. Stone Construction Entrance: Excavation, washed stone, maintenance during construction, and final removal and cleanup.

1.09 (X)' DIA. MANHOLES, DEPTH (X) –(X) FT

- A. Measurement: By the number of various sizes and at the depth installed. Measure depths from manhole cover to lowest pipe invert.
- B. Work: Excavating, backfilling, stone sub base, concrete sections as required for the depth, top adjusting rings, steps, pipe boots, and ring and cover.

1.10 ROCK EXCAVATION

- A. Measurement
 - 1. Pipe: Measure along the centerline of the trench, times the depth from the top of rock profile to the specified depth below the pipe, times the pipe OD plus two feet.
 - 2. Structure: Measure two feet beyond the outside of the structure (excluding extended base) and to a depth of one foot greater than the bottom of the structure.
 - 3. General: Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by the Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.
- B. Work: Complete removal and disposal of excavated rock material including, but not limited to, drilling, blasting, monitoring, excavating, loading, hauling, and properly disposing of excavated material. Providing specified material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.

1.11 UNDERCUT UNSTABLE PIPE FOUNDATION

- A. Measurement: Measure along the centerline of the trench times the undercut depth below the pipe bedding as approved by Engineer times the pipe OD plus two feet. Measure unstable soils at manholes on the maximum basis of 1 foot greater diameter than the outside diameter of the manhole and a depth as approved by the

Engineer. Measurement shall be based on the actual quantities removed but not exceeding the maximum specified trench dimensions. Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.

- B. Work: Complete removal and disposal of unstable soil including, but not limited to, excavating, loading, hauling, properly disposing of excavated material, and providing stone for backfill. Providing stone material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.

1.12 ASPHALT PAVEMENT PATCHING

- A. Measurement: Measure by the square yard along centerline of pavement cut times the pipe OD plus two feet. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
- B. Work: Backfilling, compacting, stone sub-base, asphalt at the depths as specified.

1.13 ASPHALT BINDER FOR PLANT MIX

- A. Measurement: No measurement for Asphalt Binder shall be made.
- B. Work: Such price and payment will be incidental to ASPHALT PAVING line items and the price will NOT be adjusted based on NCDOT index.

1.14 MILLING ASPHALT PAVEMENT

- A. Measure by the ton for weigh tickets for each truck load of asphalt removed. Engineer shall approve location and amount of asphalt to be removed. Weigh tickets shall be stamped at the point of disposal. Copies of weigh tickets shall be given to Engineer.
- B. Work shall include milling pavement, cleaning milled surface, loading, hauling, and proper disposal of milled material.
- C. Payment shall only be made for milled asphalt that is verified by a weigh ticket given to Engineer at the time of removal.

1.15 ASPHALT PAVING (TYPE X)

- A. Measure by the actual tons completed and accepted on the job.
- B. Work shall include fine grading of sub-grade; hauling, placing and compaction of stone base; primer, and hauling, placing, and compaction of asphalt.

1.16 (X) INCH CONCRETE CURB & GUTTER

- A. Measure by the linear foot as taken along the face of the curb and gutter installed. Depressed curb at wheelchair ramps will be measured as curb and gutter and paid for at the price as the adjacent curb and gutter.
- B. Work shall include excavation, forming, concrete placement and finishing, construction and expansion joints, and backfill.

1.17 CONCRETE SIDEWALK

- A. Measure by the square yard installed.
- B. Work shall include the excavation, forming, concrete placement and finishing, construction and expansion joints, and backfill.

1.18 UNDERCUTTING FOR PAVEMENT PATCHING

- A. Measurement: Measure undercut in the field in the presence of the Engineer. Undercut must be approved by the Engineer as the Work progresses. Maintain daily log sheets of measured quantities. Log sheets must be signed by Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.
- B. Work: Complete removal and disposal of unstable soil including, but not limited to, excavating, loading, hauling, properly disposing of excavated material, and providing stone for backfill. Providing stone material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.

1.19 CLEARING AND GRUBBING

- A. Measurement shall not be made for this item.
- B. Payment for the clearing and grubbing shall be in accordance with the Contract lump sum price. Payment shall be for the labor, material, equipment, and accessories required for the clearing and grubbing as indicated in the Contract Documents.

1.20 GRADING

- A. Measurement shall not be made for this item.
- B. Payment for the grading shall be in accordance with the Contract lump sum price for the total grading as required by the Contract Documents. Payment shall be for all the labor, material and accessories required for a complete grading including, but not limited to, rough and fine grading, undercutting of unsuitable material, hauling and placing of fill material and removal of excess or waste material as necessary, and compaction of subgrade.

1.21 EROSION CONTROL

- A. Measurement shall not be made for this item.
- B. Payment for the erosion control shall be in accordance with the Contract lump sum price for the installation of erosion control measures as required by the Contract Documents. Payment shall be for the labor, material, equipment, and accessories required for a complete installation including, but not limited to, the cost of installing, maintaining, and removal of the individual erosion control devices. Erosion control devices shall include, but not be limited to, the following:
 - 1. Silt fence.
 - 2. Sedimentation basins.
 - 3. Temporary and permanent swales.
 - 4. Riprap.
 - 5. Inlet protection.

1.22 SEEDING

- A. Measurement shall not be made for this item.
- B. Payment for the seeding shall be in accordance with the Contract lump sum price. Payment shall be for the labor, material, equipment, and accessories required for the seeding as indicated in the Contract Documents.

1.23 FLOWABLE FILL

- A. Measurement: Measure by cubic yard installed to fill abandoned pipes where indicated on the Drawings.
- B. Work: Hauling, installing, pumping, shoring, removal of asphalt pavement, plugging, etc.

1.24 CONSTRUCTION SURVEYING

- A. Measurement shall not be made for this item.
- B. Payment for the Construction Surveying shall be in accordance with the Contract Lump sum price as required by the Contract Documents. Payment for work shall include but not be limited to:
 - 1. Records
 - 2. Horizontal and Vertical Controls
 - 3. Right of Way, Control of Access, and Easements
 - 4. Cross Sections for Earthwork Quantities
 - 5. Drainage and Utility Construction Systems

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01312

PROJECT COORDINATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
 - 4. Cleaning and protection.

1.02 GENERAL COORDINATION REQUIREMENTS

- A. Responsibilities of Contractor:
 - 1. Coordinate construction activities for the Project to assure efficient and proper installation of each part of the Work.
 - 2. Where availability of space is limited, coordinate installation of components to assure maximum accessibility for maintenance. Make adequate provisions to accommodate components scheduled for later installation.
 - 3. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings. A copy of all memoranda shall be submitted to the Engineer.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Installation meetings.
 - 6. Project Close-out activities.
- C. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 SPECIAL REQUIREMENTS

END OF SECTION

SECTION 01314

PROJECT MEETINGS

PART 1 GENERAL

1.01 MEETINGS

- A. Pre-construction conference shall be held prior to the beginning of the Work.
- B. Construction progress meetings shall be held monthly.
- C. Project close-out conference shall be held during the final phases of the Work.
- D. Engineer may schedule additional meetings.
- E. Meetings scheduled by the Engineer shall be held at the Town of Apex Public Works Administration Building.
- F. Contractor's project superintendent shall attend meetings.
- G. Notify suppliers and subcontractors to attend meetings as appropriate or as required by Engineer.
- H. Contractor shall schedule pre-installation conferences as required in the individual specification sections.
- I. Notify Engineer of project meetings scheduled by the Contractor.
- J. Engineer will schedule and administer meetings throughout the progress of the Work, except for meetings held by the Contractor for normal coordination of the Work.
- K. Meeting agenda shall include, but not be limited to, the following: Project Administration, Submittals, Construction Schedules and Methods, Safety and Health Regulations, Project Coordination, Payment Application, Change Orders, and Site Inspections.
- L. Engineer will prepare agenda with copies to participants, preside at meetings, prepare minutes and distribute to participants for meetings scheduled by the Engineer.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section includes, but is not limited to, requirements for the following:
 - 1. Submittal procedures.
 - 2. Construction progress schedule.
 - 3. Schedule of values.
 - 4. Proposed product list.
 - 5. Project record documents.
 - 6. Certificates of compliance.
 - 7. Catalog data.
 - 8. Shop drawings.
 - 9. Manufacturer's installation procedures.
 - 10. Samples.
 - 11. Test reports.
 - 12. Operation and maintenance instructions.
 - 13. Warranties.
 - 14. Spare parts and maintenance materials.

1.02 SUBMITTAL PROCEDURES

- A. Transmit each submittal with cover letter to the Town of Apex at 105-B Upchurch Street, Apex, NC 27502.
- B. Sequentially number transmittal forms. Re-submittals to have original number with an alphabetic suffix.
- C. Cover letter for each submittal package shall list the following:
 - 1. Contractors name:
 - 2. Owners name:
 - 3. Project name:
 - 4. Project/Job No.:
- D. Individual submittals shall each be listed by the following information:
 - 1. Submittal reference no.
 - 2. Specification section number.
 - 3. Drawing and detail number when appropriate.
 - 4. Equipment.
 - 5. Type submittal.
 - 6. Supplier.
 - 7. Manufacturer.
- E. Apply Contractor's stamp to each submittal, signed or initialed and dated, certifying that Contractor has reviewed submittal for conformance with requirements of Contract Documents, and has coordinated submittal with related work.
- F. Schedule submittals to expedite Project, and deliver to coordinate submission of related items. Allow a minimum of fifteen (15) working days for Engineer's review.

- G. Identify variations from Contract Documents and Product limitations as they relate to the satisfactory performance of the Project.
- H. Provide space for Contractor and Engineer review stamps.
- I. Revise and resubmit submittals as required; identify changes made since previous submittal.
- J. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report inability to comply with provisions.
- K. Work requiring submittal review by Engineer shall not be started until review has been obtained.
- L. Engineer's review of submittals shall not relieve Contractor of responsibility for complete compliance with Contract Documents.

1.03 ADMINISTRATIVE SUBMITTALS

- A. Construction Progress Schedule
 - 1. Submit five (5) copies of the initial progress schedule 15 days after date of Owner-Contractor Agreement. One copy shall be returned to the Contractor.
 - 2. Progress schedule shall be, as a minimum, a horizontal bar chart with a separate line for each major section of Work. Identify the first work day of each week.
 - 3. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
 - 4. Indicate the expected monthly pay requests.
 - 5. Submit revised schedule with each Application for Payment as required for updating, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.
 - 6. Indicate submittal dates required for critical shop drawings, product data, samples, and product delivery dates .
 - 7. Indicate specific work sequences and requirements as indicated in Section, Summary of Work.
- B. Schedule of Values
 - 1. Submit three (3) copies of the schedule of values at least three (3) weeks prior to the first partial payment request. Schedule shall divide the lump sum contract items into major work tasks. Use the table of contents as a guide for itemizing the schedule. Schedule will be used only as a basis for review of the Contractor's request for payment.
 - 2. Engineer may request additional delineation of work tasks and supporting data of the values, as he deems appropriate. Revise schedule and resubmit.
 - 3. Revise schedule to list approved Change Orders, with each request for payment.
- C. Proposed Product List
 - 1. Within 15 days after date of Owner-Contractor Agreement, submit a list of the following major products proposed for use, with name of manufacturer, supplier, trade name, and model number of each product:
- D. Project Record Documents
 - 1. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - a. Contract Drawings.

- b. Project Manual.
 - c. Addenda.
 - d. Change Orders and other Modifications to the Contract.
 - e. Reviewed submittals.
- 2. Store Record Documents separate from documents used for construction.
- 3. Record information concurrent with construction progress.
- 4. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 - a. Manufacturer's name and product model and number.
 - b. Product substitutions or alternates utilized.
 - c. Changes made by Addenda and Modifications.
- 5. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
 - a. Measure elevations of structures in relation to datum.
 - b. Measure and reference horizontal and vertical locations of underground utilities and appurtenances to existing permanent surface improvements that are indicated on the Drawings.
 - c. Measure and reference location of internal utilities and appurtenances concealed in construction to visible and accessible features of the Work.
 - d. Field changes from construction Drawings.
 - e. Details not on original Contract Drawings.
- 6. Submit documents to Engineer with final Application for Payment.

1.04 TECHNICAL SUBMITTALS

A. General

- 1. Submit the following as required by the individual sections of the technical specifications.
- 2. Unless noted otherwise, submit the number of copies that Contractor requires, plus three (3) copies that will be retained by Engineer.

B. Certificates of Compliance

- 1. Certificates shall certify that the Products delivered to the project are in conformance with the specifications.
- 2. Certificates may be recent or previous test results on Product, but must be acceptable to Engineer.
- 3. Certification shall not relieve the Contractor of responsibility for complying with requirements of the specifications.
- 4. When using federal CWSRF and / or DWSRF funds, a Certification will be required for all products including iron and steel to document conformance to the American Iron and Steel (AIS) requirement. This shall be in the form of a step certification. It shall be on company letterhead from each different manufacturer in the process (e.g., melting, bending, coating, galvanizing, etc.). At a minimum, the certification shall state that the products and / or materials for the subject project are in full compliance with the AIS requirements as mandated by EPA's State Revolving Fund programs and shall include the company name, company address, list the items/materials, where the process took place (physical location).

C. Catalog Data

- 1. When shop drawings are not required, the catalog data shall include the following as a minimum:
 - a. Parts schedule that identifies the materials to be used in each of the various parts.

- b. Sufficient detail to serve as a guide for assembly and disassembly of the product and to serve as guide for ordering parts.
- 2. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Work in the Shop Drawing submittal.
- D. Shop Drawing
 - 1. Shop drawings shall consist of drawings, diagrams, illustrations, schedules, performance charts, brochures and other data, prepared specifically for a portion of the Work.
 - 2. Shop drawings shall indicate the type, size, quantity, arrangement, location, mode of operation, component materials, utility connections, wiring and control diagrams, anchorage's, supports, factory applied coatings, and other information necessary to ensure satisfactory fabrication, installation and operation of the completed Work.
 - 3. Shop drawings shall establish the actual detail of manufactured or fabricated items, indicate proper relation to adjoining work, amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure, and incorporate minor changes to design and construction to suit actual requirements.
- E. Manufacturer's Installation Procedures
 - 1. Installation procedures should indicate manufacturer's recommendations for proper installation of Product.
- F. Samples
 - 1. Submit samples as required by the individual specification sections. Samples shall be physical examples to illustrate the materials and workmanship. Submit in sufficient size and quantity to clearly illustrate the functional characteristics of the Product, with integrally related parts and attachment devices, and the full range of color to be provided.
- G. Test and Start-Up Reports
 - 1. Submit three (3) copies of report to the Engineer within seven (7) days of performing the test.
 - 2. Report shall include the following as a minimum:
 - a. Owners name:
 - b. Project name:
 - c. Firm performing work.
 - d. Individual performing work.
 - e. Specification section no.:
 - f. Product tested or started.
 - g. Date and time of work.
 - h. Type of test or start-up.
 - i. Specific location in the Project: (i.e. Structure name and location within the structure by a rough sketch.)
 - j. Results.
 - k. Opinion of firm doing the work as to the test or start-up being in compliance with the Contract Documents.
 - 3. When requested by Engineer, the testing or start-up firm shall provide additional interpretation of results.

H. Operation and Maintenance Instructions

1. Submit three (3) copies of operation and maintenance instructions within 45 days after approval of the shop drawings.
2. Submit instructions in a navy-blue vinyl, loose leaf binder containing the name of the equipment covered on the front and the spine of the binder. Provide tab dividers appropriately labeled.
3. As a minimum, the submittal shall contain complete operation and maintenance instructions, drawings, and complete parts list.
4. In addition, for equipment requiring periodic lubrication, provide two (2) lubrication charts; one shall be included in the binder, and the other shall be provided in weatherproof 10 mil. laminated plastic and shall be permanently affixed to the equipment. Charts shall contain pertinent information concerning the lubricating requirements including manufacturer's name, name of equipment, recommended service interval, and recommended lubricant, location of each of the points of lubrication.

I. Warranties

1. Provide duplicate notarized copies.
2. Assemble documents from Subcontractors, suppliers, and manufacturers.
3. Provide Table of Contents and assemble in three D side ring binder with durable plastic cover.
4. Submit prior to final Application for Payment.
5. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

J. Spare Parts and Maintenance Materials

1. Provide products, spare parts, maintenance, and extra materials in quantities specified in individual specification Sections.
2. Deliver to Project site and place in location as directed by the Owner. Obtain Owner's signature and date bill of materials as delivered to the site as required by this paragraph. Provide a copy of signed bill of materials to Engineer with request for payment.
3. Provide recommended manufacturer's list of spare parts, maintenance, and extra material as specified in individual specification sections.
4. Submit to Engineer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01450
QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. Inspection and testing laboratory services.
- C. References.
- D. Field samples.
- E. Manufacturers' field services and reports.

1.02 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Manufacturer shall have the minimum number of years of proven successful experience required in each section in the design, manufacture, and servicing of Products specified.
- B. In lieu of the required experience, manufacturer may provide a cash deposit or bond equal to the cost of the Product, but pro-rated to the number of years of actual experience.
- C. Products from a manufacturer who does not meet the experience requirements must meet technical requirements.
- D. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- E. Comply fully with manufacturers' instructions, including each step, in sequence.
- F. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- G. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- H. Perform work by persons qualified to produce workmanship of specified quality.
- I. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 INSPECTION AND TESTING LABORATORY SERVICES

- A. Owner will employ, and pay for services of an independent firm to perform inspection and testing for the following specific items.
 - 1. Soil testing.
 - 2. Concrete testing.
- B. Contractor shall provide the services of an independent firm to perform inspection and testing specified in the individual specification sections that are not listed above.
- C. Provide the services of an independent firm to perform soil and material inspections, testing and other services specified in the individual specification sections of this Contract Document.

- D. Testing laboratory shall be authorized to operate in the state in which Project is located.
- E. Testing laboratory shall have a full-time registered Engineer on staff to review services.
- F. Testing equipment shall be calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) standards or accepted values of natural physical constants.
- G. Prior to start of Work, submit testing laboratory name, address, and telephone number, names of full-time registered engineer, field inspector, and responsible project manager. Laboratory subject to the approval of the Engineer.
- H. The same independent firm shall perform retesting. Contractor shall pay for retesting required by the failure of the initial test to meet the requirements of the specifications.

1.04 LABORATORY RESPONSIBILITIES

- A. Testing Laboratory shall have the following responsibilities for the Project:
 - 1. Attend pre-construction conferences and progress meetings as required by the Engineer.
 - 2. Collect and test samples of mixes.
 - 3. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
 - 4. Perform inspection, sampling, and testing in accordance with Contract Documents and specified standards.
 - 5. Ascertain compliance of soil compaction and material mixes with requirements of Contract Documents.
 - 6. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or Products.
 - 7. Perform additional inspections and tests required by Engineer when specified tests have failed.

1.05 LIMITS ON TESTING LABORATORY AUTHORITY

- A. The authority of the Testing Laboratory is limited as follows:
 - 1. May not alter requirements of Contract Documents.
 - 2. May not approve or accept any portion of the Work.
 - 3. May not assume duties of Contractor.
 - 4. Has no authority to stop the Work.

1.06 LABORATORY REPORTS

- A. After each inspection and test, the independent testing firm shall submit report(s) as specified in Section, Submittal Procedures.

1.07 CONTRACTOR RESPONSIBILITIES

- A. Unless specified otherwise, deliver to laboratory at designated location, adequate samples of materials proposed to be used that require testing. The proposed mix designs shall be included with delivery.
- B. Cooperate with laboratory personnel, and provide access to the Work and to manufacturer's facilities as specified.

- C. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site and at source of products to be tested, to facilitate tests and inspections, storage, and curing of test samples.
- D. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.

1.08 REFERENCES

- A. Conform to reference standard by date of issue current to date of Bid opening.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Contractual relationship of parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.09 FIELD SAMPLES

- A. Install field samples at site as required by individual specification sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Remove field samples and clean area prior to final inspection unless specified otherwise in the individual specification sections.

1.10 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. Require suppliers and manufacturers to provide a qualified technician for required services as outlined by the individual equipment and material specification sections.
- B. Submit qualifications of technician to Engineer 30 days in advance of required work. Technician subject to approval of Engineer.
- C. Technicians shall report observations, site decisions, and instructions given to Contractor, installers, and Owner's staff that are supplemental or contrary to manufacturers' written instructions directly to the Engineer.
- D. Submit test and start-up report as specified in Section, Submittal Procedures.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, telephone service, water, and sanitary facilities.
- B. Work on public right-of-way.
- C. Traffic control.
- D. Temporary Controls: Barriers, enclosures and fencing, water control, dust control, erosion and sediment control, and protection of the work.
- E. Construction Facilities: Access roads, parking, progress cleaning, project signage, and field offices.

1.02 TEMPORARY UTILITIES

- A. Electricity
 - 1. Provide and pay for required power service for construction from Utility source.
- B. Lighting
 - 1. Provide and maintain lighting for construction operations as required by Contractor.
 - 2. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes as required by Contractor.
- C. Telephone Service
 - 1. Provide, maintain and pay for telephone service to field office as required by Contractor.
- D. Water
 - 1. Owner will provide suitable quality water used for construction. Exercise measures to conserve water during construction. Contractor will be billed for water usage in excess of normal construction requirements at Owner's published water rates. Contractor shall provide any necessary metering and backflow prevention as required by Owner.
- E. Sanitary Facilities
 - 1. Provide and maintain required facilities and enclosures as necessary to comply with the laws and ordinances of the authority having jurisdiction and the State of North Carolina.
 - 2. General Contractor shall provide the above sanitary facilities for all contractors, sub-contractors, Owner and Engineer at the Project Site
 - 3. Existing facilities shall not be used.

1.03 WORK ON PUBLIC RIGHTS-OF-WAY

- A. Work on this Project is along rights-of-way under jurisdiction of the following N.C. Department of Transportation (NC DOT) office and Owner:
 - 1. Work in Wake County:
 - 2. Division No. 5, District No. 1
 - 3. Daniel Boulware, PE, District Engineer

4. 4009 District Drive, Raleigh, NC 27607
 5. 919-814-6115
- B. Work shall comply with requirements of the Encroachment Agreement(s) and Driveway Permit as attached to Project Supplementary Conditions.
 - C. Post Bonds as required by Encroachment Agreement.
 - D. Prior to start of Work notify the Office of the N.C. Department of Transportation as indicated in the encroachment agreement and driveway permit. Also notify the Owner.
 - E. Work shall conform to the requirements and be subject to the approval of the above agency.
 - F. Contractor shall be responsible to the Owner for the cost of all DOT inspection that is billed to the Owner by the N.C. DOT as indicated in the Special Provisions of the Encroachment Agreement. Such cost shall be deducted from the Contractor's pay request.
 - G. Submit letter to the above District Engineer(s) when work is complete as required by the Encroachment Agreement.
 - H. Submit letter of approval for completed Work from the above agency with Final Payment Request.
 - I. Clean rights-of-way as work progresses and daily.
 - J. Power broom existing pavement as work progresses.
 - K. Work shall be in accordance with the latest edition of the N.C. Division of Highways, "Policies and Procedures for Accommodating Utilities on Highway Right-of -Way."
 - L. Consult with the above agency in establishing public thoroughfares to be used for haul routes and site access.
 - M. Confine construction traffic to designated haul routes.
 - N. Provide traffic control along haul routes to regulate traffic and to minimize interference with public.
 - O. Provide and maintain access to fire hydrants, free of obstructions.

1.04 TRAFFIC CONTROL

- A. On public and private road rights-of-way provide traffic control devices when construction encroaches within the right-of-way. Devices shall include, but not be limited to, cones, drums, flares, warning signs, temporary pavement marking, warning lights, and flagman.
- B. Traffic control devices shall provide the following:
 1. Protection of motorists, pedestrians and workers from accident hazards.
 2. Advance public information of proposed work sites.
 3. Establishment of an orderly and safe flow of traffic and to minimize traffic congestion.
 4. Provision of access for emergency vehicles.
- C. Traffic control devices shall be used in accordance with the latest edition of the NC DOT "Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)."
- D. Provide personnel trained in traffic control.

1.05 TEMPORARY CONTROLS

A. General

1. Temporary controls shall be the responsibility of each Contractor for their respective work unless noted otherwise.

B. Barriers

1. Provide barriers to prevent unauthorized entry to construction areas for the safety of the public, the protection of the work, and to protect existing facilities and adjacent properties from damage from construction operations.
2. Provide barricades required by agency in 1.4.A for public rights-of-way and for public access to existing buildings.
3. Provide protection for plant life designated to remain. Replace damaged plant life.
4. Protect vehicular traffic, stored materials, site, and structures from damage.

C. Water Control

1. Grade site to drain. Provide, operate, and maintain pumping equipment to maintain excavations free of water.
2. Protect site from running water.

D. Dust Control

1. Execute Work by methods designed to minimize raising dust from construction operations.
2. Provide positive means to prevent airborne dust from dispersing into atmosphere.

E. Erosion and Sediment Control

1. Provide Erosion and Sediment Control as indicated on the Drawings and specified in Section, Erosion Control.

F. Protection of Installed Work

1. Protect installed Work and provide special protection where specified in individual specification Sections.
2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
3. Prohibit traffic from landscaped areas.

1.06 CONSTRUCTION FACILITIES

A. General

1. Construction facilities shall be the responsibility of each Contractor for their respective work unless noted otherwise.

B. Access Roads

1. Contractor shall construct and maintain temporary drives as necessary to access public thoroughfares and existing drives to serve the construction area.
2. Provide means of removing mud from vehicle wheels before entering streets.

C. Parking

1. When site space is not adequate, arrange for temporary off-site surface parking areas to accommodate construction personnel.
2. Do not allow vehicle parking in existing right-of-way or to block existing drives.
3. Do not allow vehicle parking on private property without prior approval.

D. Progress Cleaning

1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
2. Remove waste materials, debris, and rubbish from site periodically and dispose off site.

1.07 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.02 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components specified in the Contract Documents for reuse.

1.03 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Ship fabricated assemblies in largest sections permitted by carrier regulations and properly marked for ease of field erection.
- C. Promptly inspect shipments to assure that Products comply with specified requirements, quantities are correct, and Products are undamaged.
- D. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

- A. Keep on site storage of material to a minimum.
- B. Store and protect Products in accordance with manufacturer's instructions in unopened original packages, with seals and labels intact and legible. Store sensitive Products in weather-tight, climate-controlled enclosures.
- C. For exterior storage of fabricated Products, place on sloped supports, above ground.
- D. Provide off site storage and protection when site does not permit on site storage.
- E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- F. Store loose granular Products on solid flat surfaces in a well drained area. Prevent mixing with foreign matter.
- G. Arrange storage of Products to permit access for inspection. Periodically inspect to assure Products are maintained under specified conditions.

1.05 DAMAGED PRODUCTS

- A. Remove damaged Products from Project site.

1.06 PRODUCT OPTIONS

- A. Products Specified by Reference Standards: Product meeting standard and specific requirements of these specifications.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming Three Manufacturers with an "or equal" Provision for Substitutions: Submit a request for substitution for manufacturer not named during the shop drawing submittal.

1.07 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within 30 days after date of Owner-Contractor Agreement.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. Request constitutes a representation that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Shall provide same warranty for Substitution as for specified product.
 - 3. Shall coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Shall reimburse Owner for review or redesign services associated with reapproval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to proposed product equivalence.
 - 3. Engineer will notify Contractor, in writing, of decision to accept or reject request.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION
Not used

END OF SECTION

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination.
- B. Cutting and patching.
- C. General installation provisions.
- D. Cleaning and protection.
- E. Final inspection and tests.
- F. Adjusting.
- G. Close-out procedures.

1.02 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specifications sections.
- D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

1.03 CUTTING AND PATCHING

- A. General
 - 1. Do not cut, or alter the work of other contractors without written approval of the Engineer.
 - 2. Work removed shall be replaced or repaired by the Contractor who removed or damaged the work, and a craftsman, skilled in the trade that the particular replacement requires, shall do the work. (i.e.: A mason, not an electrician, shall replace masonry removed by the Electrical Contractor.)
 - 3. Conduct removal operations in a manner that will eliminate hazards to persons and property and prevent the release of dust and rubbish into the air. Existing work, which is to remain and is damaged by contract operations shall be replaced with new materials at no additional cost to the Owner.
 - 4. For replacement of work removed, comply with specifications for type of work to be done.
- B. Inspection
 - 1. Inspect existing conditions of work including elements subject to movement or damage during cutting and patching, and excavating and backfilling.
 - 2. After uncovering work, inspect conditions affecting installation of new products.
- C. Preparation prior to cutting
 - 1. Provide shoring, bracing, and support as required to maintain structural integrity of project.

2. Provide protection for other portions of project.
 3. Provide protection from elements.
- D. Performance
1. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.
 2. Execute cutting and demolition by methods to prevent damage to other work and provide proper surfaces to receive installation of repairs and new work.
 3. Execute excavating and backfilling as specified in Section, Trenching for Utilities.
 4. Restore work, which has been cut or removed; install new products to provide completed work in accordance with requirements of contract documents.
 5. Refinish entire surfaces as necessary to provide an even finish.
 - a. Continuous Surfaces: To nearest intersections.
 - b. Assembly: Entire Refinishing.

1.04 GENERAL INSTALLATION PROVISIONS

- A. Require Installer of each major component to inspect conditions under which Work is to be performed. Clean substrate surfaces prior to applying next material or substance. Do not proceed until unsatisfactory conditions have been corrected.
- B. Comply with manufacturer's recommendations to the extent that they are more explicit or stringent than requirements contained in Contract Documents.
- C. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- D. Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Engineer for final decision.
- E. Check dimensions before starting each installation.
- F. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- G. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- H. Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Engineer for final decision.

1.05 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration.
- B. Clean and maintain completed construction as frequently as necessary through the construction period. Adjust and lubricate components as required to ensure proper operation.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, or dangerous exposure

during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessive internal or external pressures.
3. Excessively high or low temperatures.
4. Thermal shock.
5. Air contamination or pollution.
6. Water or ice.
7. Abrasion.
8. Heavy traffic.
9. Misalignment.
10. Improper shipping or handling.
11. Theft.
12. Vandalism.

D. Clean Project prior to final inspection. Project clean up shall include, but not be limited to, the following:

1. Clean debris from roofs, gutters, down spouts, and drainage systems.
2. Sweep paved areas.
3. Rake clean landscaped surfaces.
4. Remove waste and surplus materials.
5. Remove temporary construction facilities.

1.06 FINAL INSPECTION AND TESTS

A. Complete punch list items within 30 days of receipt from Engineer. Owner may have work not completed within 30 days performed by others with the cost deducted from Contractor's final payment. Additional engineering and inspection services required as a result of Contractor not completing punch list within 30 days shall be at Contractor's expense.

1.07 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.
- B. Provide proper fluids in equipment.
- C. Provide proper filters in equipment.

1.08 CLOSE-OUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit set of Record Documents indicating changes during construction as required in Section, Submittal Procedures.
- D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and final amount due.
- E. Submit the following with final Application for Payment:
1. Affidavit of Release of Liens
 2. Consent of Surety for Final Payment
 3. Affidavit of Payment of Debts and Claims

4. Final Certified Payroll Information

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION