

PROJECT MANUAL
Lake Johnson Principal Spillway Repairs
City of Raleigh
Wake County, North Carolina

SM2021-0025

July 2026



Ryan P. Doyle, P.E.
AECOM Technical Services of North Carolina, Inc.
Raleigh, NC 27607
Company License # F-0342

City Manager
Marchell Adams-David

Mayor
Janet Cowell



TABLE OF CONTENTS

<u>Document</u>	<u>Title</u>
------------------------	---------------------

00010	Table of Contents
-------	-------------------

BIDDING REQUIREMENTS

00100	Advertisement for Bids
00200	Instruction to Bidders
00409	Bidder's Checklist
00410	Bid Form
00430	Bid Bond
00441	Contractor's Certificates: Affidavit of Organization and Authority and Sworn Statement
00442	City of Raleigh Contractor's Poor Performance Policy
00443	Non-Collusive Affidavit
00444	Notice to Contractor Regarding Intrusion Beyond Project Limits

CONTRACT REQUIREMENTS

00510	Notice of Award
00520	Agreement between Owner and Contractor for Construction Contract
00550	Notice to Proceed
00610	Performance Bond
00615	Payment Bond
00616	Certificate of Owner's Attorney & Certificate of Payments
00617	Affidavit
00618	Page for Attaching Certificate of Insurance
00620	Contractor's Application for Payment
00625	Certificate of Substantial Completion
00634	Page for Attaching Power of Attorney
00700	Standard General Conditions of the Construction Contract (EJCDC, 2018)
00800	Supplementary Conditions
00805	Procedures for Reporting NC Sales Tax Expenditures on City of Raleigh Contracts

<u>Document</u>	<u>Title</u>
------------------------	---------------------

00810	Rules Implementing Mediated Settlement Conferences in NC Public Construction Projects
00940	Work Change Directive(s)
00941	Change Order(s)
00942	Field Order(s)

TECHNICAL SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

01 11 00	Summary of Work
01 22 00	Unit Prices
01 31 19	Project Meetings
01 33 00	Submittal Procedures
01 35 13	Specific Project Requirements
01 45 00	Quality Control
01 50 00	Temporary Facilities and Controls
01 52 00	Maintenance of Operation During Construction
01 60 00	Product Requirements
01 70 00	Execution Requirements
01 78 39	Project Record Documents

DIVISION 02 – EXISTING CONDITIONS

02 41 00	Demolition and Salvage
----------	------------------------

DIVISION 03 - CONCRETE

03 30 00-A	Cast-in-Place Concrete and Joint Repair
------------	---

DIVISION 31 - EARTHWORK

31 05 00	Earthwork
31 11 00	Clearing, Grubbing, and Selective Tree Removal

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 01 30	Restoration of Improvements
32 10 00	Pavement and Appurtenances
32 31 13	Fencing (Chain Link)
32 92 00	Lawns and Grasses
32 93 00	Landscaping

APPENDICES

Owner Obtained Permits/Entitlements:

- NC DEQ, Dam Safety Permit

END OF DOCUMENT

ADVERTISEMENT FOR BIDS
POSTED: JULY 31, 2026
CITY BID NUMBER: SM-2024-0015

Project: Lake Johnson Principal Spillway Repairs

Owner: City of Raleigh, North Carolina, Public Utilities Department, Stormwater Service Unit, PO Box 590 One Exchange Plaza Suite 620, Raleigh, NC 27602-0590
Contact: Ben Lingley, benjamin.lingley@raleighnc.gov

Engineer: AECOM Technical Services of North Carolina, Inc. 5438 Wade Park Boulevard, Suite 200 Raleigh, NC 27607

Pursuant to the General Statutes of North Carolina, Section 143-128 et. seq, contractors are invited to submit Single Prime Construction bids providing labor, material, and equipment for entering into a Single Prime Contract. The scope of work includes but is not limited to the following:

Provision of all labor, tools, materials, equipment, supervision, services required and reasonably implied by the City of Raleigh Standard Detail Drawings and the Contract Documents to complete repairs to the principal spillway and selected areas along the upstream concrete apron. These repairs are in response to inspections finding numerous cracks in concrete and joints in need of repair.

Bids: Bidders are responsible for ensuring delivery of bids before the deadline.
(emailed bids accepted by benjamin.lingley@raleighnc.gov). Bids will be received until:

Time:	3:00 pm
Date:	August 28, 2026
Mail Delivery:	City of Raleigh, Raleigh Stormwater Attn: Ben Lingley PO Box 590 One Exchange Plaza Suite 620 Raleigh, NC 27602-0590
Day of Bid Hand Delivery:	City of Raleigh, Stormwater Division
Drop off Times:	10:00 am – 3:00 pm, bid day only 1 Exchange Plaza 7 th floor, Room 706 Raleigh, NC 27601

A Site Visit prior to bidding is recommended. Bidders are encouraged to visit the project site on their own.

Questions Deadline: August 14, 2026 at 4 pm.

Paper hard copy sealed bids are not required and digital submissions are encouraged. Bidders have three (3) options for delivery of their bid documents:

Early delivery via in person/hand delivery on the day of the bid opening during the time shown above. The City's Stormwater Division project manager will be onsite at that time to receive bids. Envelopes must be addressed and sealed and will be securely held until the time of the bid opening later that afternoon.

Mail in bids in accordance with the address shown above.

Digital submittal to benjamin.lingley@raleighnc.gov prior to 3:00 pm on bid day.

No public opening will be held in accordance with informal bidding rules.

Partial sets of plans and specifications will not be issued. Contractors are responsible for distributing documents to all sub-contractors.

Information related to this solicitation, including any addenda, will be posted to the electronic Vendor Portal (eVP) (<https://evp.nc.gov/>).

Bidding Documents may be examined at Engineer's office and at: Duncan Parnell, Inc., 201 Glenwood Avenue, Raleigh, NC 27603.

Bidding Documents may be viewed and ordered online by registering with Duncan Parnell via their bid room <https://bidroom.duncan-parnell.com/>. Registration with Duncan Parnell is required to obtain the bid documents and be added to the official Plan Holder's list. Addenda will only be notified to those buying full sets from Duncan Parnell via their bid room. The cost of bid documents is non-refundable. The Owner/Engineer will NOT be responsible for copies of bid documents obtained from sources other than Duncan Parnell. If assistance ordering or getting registered is needed, contact Michaela Bruinius at constech@duncan-parnell.com or 704-526-1856.

With each request for Bidding Documents supply the following information: Company name, contact person, street address, phone number, and email address for Bidding point of contact; N. C. contractor's license with limitation and classification; indicate if the firm will be a Prime bidder, Supplier or Sub-Contractor.

Bidders will be required to show evidence that they are licensed to perform the work in the Bidding Documents as required by North Carolina General Statute, Chapter 87 and the Instruction to Bidders.

Bid Security in the amount of five percent (5%) of the Bid must accompany each Bid and shall be subject to the conditions provided in the Instruction to Bidders.

Bidders will be required to show evidence that they are licensed to perform the work in the Bidding Documents as required by North Carolina General Statute, Chapter 87.

No Bid may be withdrawn for Forty-Five (45) days after opening time.

The City reserves the right to reject any or all bids and to waive informalities.

City of Raleigh

Janet Cowell, Mayor

**END OF
ADVERTISEMENT FOR
BID**

INSTRUCTIONS TO BIDDERS
TABLE OF ARTICLES

	Page
Article 1 – Defined Terms	1
Article 2 – Copies of Bidding Documents	2
Article 3 – Qualifications of Bidders	2
Article 4 – Examination of Bidding Documents, Other Related Data, and Site	3
Article 5 – Pre-Bid Conference	5
Article 6 – Site and Other Areas	6
Article 7 – Interpretations and Addenda	6
Article 8 – Bid Security	6
Article 9 – Contract Times	7
Article 10 – Liquidated Damages.....	7
Article 11 – “Or-Equal” Items	7
Article 12 – Subcontractors, Suppliers and Others.....	7
Article 13 – Preparation of Bid	8
Article 14 – Basis of Bid; Comparison of Bids	9
Article 15 – Submittal of Bid	9
Article 16 – Modification and Withdrawal of Bid	10
Article 17 – Opening of Bids	10
Article 18 – Bids to Remain Subject to Acceptance	10
Article 19 – Evaluation of Bids and Award of Contract	10
Article 20 – Contract Security and Insurance	11
Article 21 – Signing of Agreement	11
Article 22 – Sales and Use Tax	12

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and which registers plan holders.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement For Bids may be obtained by registering with the Issuing Office as identified in the advertisement.
- 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.
- 2.04 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.05 *Electronic Documents*
 - A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
 - 1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 Bidders are notified that relevant Articles of Chapter 87 of the General Statutes of North Carolina, will be observed in receiving and awarding contracts. Bidders for this Project must be properly licensed for the Work.
- 3.02 Bidder shall be qualified in the field of concrete repair and protection with a successful track record of 3 years or more. Bidder shall have experience with a minimum of 3 similar projects.
- 3.03 To demonstrate Bidder's qualifications to perform the Work prior to award, within 5 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
 - A. Evidence of Bidder's authority to do business in the state where the Project is located.

- B. Bidder's state contractor license number.
- C. Official name of Bidder and length of time the organization has been in business under present name.
- D. 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.
- E. Officers of the company. Name and resume of designated project manager and field superintendent. Number of regular employees of the organization.
- F. Latest financial statement showing assets and liabilities of the company.
- G. Name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
- H. Listing of completed projects of similar size and type in the last 5 years. Provide name and phone number of project owner representative.
- I. Existing work commitments.
- J. List of work to be subcontracted. Name and addresses of subcontractors.
- K. Names and addresses of major material Suppliers.
- L. Statement that bidder is capable of completing the project within the stated time.
- M. Safety record of company for the last 5 years showing any violations, etc.
- N. List of all claims/resolutions/final judgements for the last 10 years.
- O. Failure or refusal to furnish information requested shall constitute a basis for disqualification of Bidder and the withholding of the Bid Bond.

3.04 The apparent Low Bidder shall submit within 72 hours of the Bid Date the following Affidavits:

- A. Affidavit D, Good Faith Efforts.
- B. Failure or refusal to furnish information requested shall constitute a basis for disqualification of Bidder and the withholding of the Bid Bond.

3.05 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions*

- A. The Supplementary Conditions identify:
 - 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous 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).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of 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.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of 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.

4.03 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.

4.05 The site may be accessed by the bidder during normal park operating hours. No further explorations, investigations, tests, and studies are permitted.

4.06 Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

4.07 Paragraph 7.13.G of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

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

A. Examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents, including any Addenda;

- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. Become familiar with and satisfy Bidder as to all federal, state, and local 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 contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable Technical Data, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 5.06 of the Supplementary Conditions as containing reliable Technical Data;
- E. Consider the information known to Bidder; 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, including applying any specific sequences of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
- F. Agree at the time of submitting its Bid that 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(s) 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. 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; and
- I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

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

ARTICLE 5 – PRE-BID CONFERENCE

5.01 No Pre-Bid Conference will be held.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. The Owner has obtained the temporary easements shown for construction and limited staging and laydown area as indicated on the Drawings; however, all additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor with agreements being in writing and a copy of the agreement provided to the City. All permits, regulatory approvals and fees associated with obtaining the additional area shall be the full responsibility of the Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing only. Interpretations or clarifications considered necessary by Engineer, in response to such questions, will be issued by Addenda to all plan holders registered with the Issuing Office. Questions received less than [7] working 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. Engineer's email address is ryan.p.doyle@aecom.com.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.
- 7.03 Submittal with questions shall include the project name, City Bid Number, the person's name submitting the question, firm, telephone number, and email address.
- 7.04 Addenda, when issued, will be on file at the offices of the Owner and Engineer and the NC electronic Vendor Portal (eVP) at least [24] hours before Bids are opened. It shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract Documents and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price (determined by adding the base bid and all alternatives) and in the form of a certified check, bank money order, or a Bid Bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 6.01 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until 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 returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Agreement or the end of the Bid holding period, whereupon Bid security furnished by such Bidders will be returned.

- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed, ready for final payment, and Milestones (if any) are set forth in Section 00520, Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in Section 00520, Agreement.

ARTICLE 11 – “OR-EQUAL” ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those “or-equal” materials and equipment approved by Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed “or-equal” item. No item of material or equipment will be considered by Engineer as an “or-equal” unless written request for approval has been submitted by Bidder and has been received by Engineer within [10] days of the issuance of the Advertisement for Bids or invitation to Bidders. Each such request shall conform to the requirements of Paragraph 7.05 and 7.06 of the General Conditions and related Supplementary Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

Applications for review of “or-equals” materials or equipment shall be by Bidders only.

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

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. 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 a substitute, without an increase in the Bid.
- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may declare the Bid as non-responsive and award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not 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 revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.07 of the General Conditions.

- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.
- 12.04 The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in Supplementary Conditions 7.07.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from the Issuing Office. To bid the project the Bidder should be registered with the Issuing Office.
- 13.02 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 item listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may be entered. Bid forms shall not be conditional, limited, or restricted in any way.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 13.04 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 official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder’s name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 Lump Sum

- A. When the Bid Form is set up for Lump Sum bidding, Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.
- B. When the Bid Form includes Alternate(s), 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 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.
- C. In the comparison of Bids, Alternate(s) will be considered by the Owner as described in Section 01 23 00, Alternates.

14.02 Unit Price

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. 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.
- D. When the Bid Form includes Alternate(s), Bidder shall submit a Bid on a unit price basis for the base Bid and include a separate price for each alternate described in the Bidding Documents 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.
- E. In the comparison of Bids, Alternate(s) will be considered by the Owner as described in Section 01 23 00, Alternates.

14.03 Allowances

- A. When the Bid Form includes 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 15 – SUBMITTAL OF BID

- 15.01 The Owner, at the location and time indicated in the Advertisement for Bids, will receive Bids. Bids received after the indicated time and date shall not be considered.
- 15.02 With each copy of the Bidding Documents, a Bidder may be furnished one separate unbound copy of the Bid Form and the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and all attachments as outlined in Article 8 of the Bid Form. The complete list of required bid documents can also be found in the attached Bidder's Checklist. The completed checklist shall be the first page of all bids submitted.

- 15.03 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement For Bids and shall be enclosed in a plainly marked package with the Project title, City Bid Number, and project name as applicable, the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent electronically, it shall be received no later than the date and time prescribed in the Advertisement For Bids. It is encouraged that a follow up email be sent confirming receipt to Benjamin.lingley@raleighnc.gov. 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 City of Raleigh, Raleigh Stormwater, Attn: Ben Lingley, PO Box 590 One Exchange Plaza, Suite 620, Raleigh, NC 27602.
- 15.04 The Bidder shall be fully responsible for timely delivery at the location designated for receipt of the Bids.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Modifications shall indicate only the amount to be added to or deducted from the Bidder's Bid amount as submitted on the Bid Form.
- 16.02 No bid may be withdrawn after the Bid opening for a period of time as indicated in the Bid Form except in accordance with the provisions of N.C. General Statutes 143-129.1.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids are not required to be opened publicly.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 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 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder when the lowest responsible Bid is in excess of the funds available.
- 19.02 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 all Bids in which that Bidder has an interest.
- 19.03 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.

- 19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.
- 19.07 In determining the lowest responsible Bidder, Owner may take into consideration the past performance of Bidder on construction contracts with particular concern given to completion times, quality of work, safety record, cooperation with other contractors, and cooperation with owner.
- 19.08 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.
- 19.09 Owner reserves the right to reject Bid as non-responsible 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.
- 19.10 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 his Bid security shall be returned.
- 19.11 If the Contract is to be awarded, the Owner reserves the right to award contracts to the lowest responsive, responsible bidder in the manner described above.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 consecutive calendar days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 90 consecutive calendar days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

- 21.02 In case of failure of Owner to execute the Agreement in the appropriate time, Bidder shall have the right to withdraw bid.
- 21.03 In case of failure of Bidder to execute the Agreement, Owner may at his option consider the Bidder in default, in which case Bid security accompanying Bid shall be retained by the Owner.
- 21.04 Applicable laws, ordinances, and the rules and regulations of authorities having jurisdiction over construction of the Project shall apply to the contract throughout.

ARTICLE 22 – SALES AND USE TAX

- 22.01 The Owner is exempt from sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to Paragraph 7.10 of the Supplementary Conditions for additional information.

END OF DOCUMENT

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 section, the following items shall be included with the fully executed Section 00410 Bid Form:

	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.
	B.	Contractor's Certificates, Affidavit of Organization and Authority of Sworn Statement
	C.	City of Raleigh – Contractor's Poor Performance Policy
	D.	Non-Collusive Affidavit
	E.	Notice to Contractor Regarding Intrusions Beyond Project Limits
	F.	Evidence of authority to do business in the state of the Project (i.e., copy of contractor's license)

BID FORM

PROJECT: Lake Johnson Principal Spillway Repairs

CITY BID NO.: SM-2024-0015

BID FROM: _____

TABLE OF CONTENTS

	Page
Article 1 – Bid Recipient	1
Article 2 – Bidder’s Acknowledgements	1
Article 3 – Bidder’s Representations	2
Article 4 – Bidder’s Certification.....	3
Article 5 – Basis of Bid.....	3
Article 6 – Time of Completion	1
Article 7 – Attachments to This Bid.....	1
Article 8 – Defined Terms	1
Article 9 – Bid Submittal	2

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Ben Lingley
City of Raleigh, Engineering Services Department, Stormwater Service Unit
127 W Hargett Street
Raleigh, North Carolina 27607

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 120 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, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied 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 contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Supplemental Conditions - 5.03 as containing reliable Technical Data, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-5.06 as containing reliable Technical Data.
- E. Bidder has considered the information known to Bidder; 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, including applying the specific sequences of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) 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 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 of the Work for which this Bid is submitted.

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;
 - 1. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
 - 2. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
 - 3. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.A:
 - a. “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;
 - b. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - c. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - d. coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

THIS AREA INTENTIONALLY LEFT BLANK

A. For Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the Bid Schedule below.

1. The inclusion of Applicable Detail, Specification Section, and 01 22 00 Pay Item Paragraph in the Bid Schedule shall not limit applicability of all relevant sections of the Contract Documents to the specific bid item. Contractor shall be responsible for compliance with all Contract Document provisions which are relevant to each bid item.

UNIT PRICE BID SCHEDULE

Item No.	Description	Applicable Detail	Specification Section	01 22 00 Pay Items Paragraph	Unit	Estimated Bid Quantity	Unit Price	Extended Bid Price
1	Mobilization			2.01	LS	1		
2	Construction Entrance		01 50 00	2.02	LS	1		
3	Laydown Area Temporary Facilities		01 50 00	2.03	LS	1		
4	Demolition and Fence Removal (As Approved by Engineer)		02 41 00	2.04	LS	1		
5	Vegetation Removal		31 11 00	2.05	LS	1		
6	Ogee Central Vertical Monolith Joint Repair	1	01 35 13 03 30 00-A	2.06	LF	30		
7	Ogee/Training Wall Abutment Joint Repair	2	01 35 13 03 30 00-A	2.07	LF	40		
8	Ogee/Spillway Horizontal	3	01 35 13	2.08	LF	50		

	Chute Slab Abutment Joint Repair		03 30 00					
9	Upstream Apron Crack Repair	4	01 35 13 03 30 00-A	2.09	LF	286		
10	Upstream Apron Joint Repair	5	01 35 13 03 30 00-A	2.1	LF	667		
11	Upstream Apron Concrete Repair	6	01 35 13 03 30 00-A	2.11	CY	0.04		
12	Lower Spillway Chute Slab Vertical Joint Repair	7	01 35 13 03 30 00-A	2.12	LF	160		
13	Training Wall Slab Joint Repair	8	01 35 13 03 30 00-A	2.13	LF	100		
14	Fence Gate	11, 12	32 31 13	2.14	LF	20		
15	Ladder	12		2.15	LS	1		
16	Optional: Replace Remaining North Side Fencing (Fabric Only)	10	32 31 13	2.16	LF	420		

17	Traffic Control (pedestrian)		Requested as contractor submittal	2.17	LS	1		
18	Project Video and Photographs			2.18	LS	1		
20	Owner's Contingency (15% of subtotal)			2.20	LS	1		

TOTAL BID PRICE (Sum of Items 1 through 20) \$

THIS AREA INTENTIONALLY LEFT BLANK

- 5.02 Bidders are hereby notified that GS 143-128(d), requires all bidders on single prime projects to identify on their Bid form the contractors they have selected for the subdivisions for branches of work for (1) HVAC, (2) Plumbing, (3) Electrical, and (4) General. Accordingly, bidder shall list below applicable selected contractors for the following branches of work (write "N/A" if not applicable or self-performed).

HVAC	_____	_____
	Name	License No.
Plumbing	_____	_____
	Name	License No.
Electrical	_____	_____
	Name	License No.
General	_____	_____
	Name	License No.

- A. Unit Prices have been computed in accordance with Paragraph 13.03.B of the General Conditions.
- B. Bidder acknowledges that 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.
- C. Bidder acknowledges that the rights of the Owner and the recommendations of the Engineer are not to be questioned in the Award of Contracts.
- D. Bidder acknowledges that it is the intention of the Mayor and City Council to let contracts on a basis of the Bids received in accordance with GS 143-129 and in such manner as they deem to be for the best interests of the Owner.
- E. Bidder acknowledges that the Owner reserves the right to accept or reject any or all bids and to waive any informalities in the bidding.
- F. Bidder acknowledges that should the total bid exceed the funds available to construct the project, the Owner reserves the right to reduce the scope of work from the project by deleting certain lump sum or unit price bid items prior to awarding the contract to bring the project within the funds available.
- G. Bidder acknowledges that if this contract is awarded, Bidder must, with every pay request, furnish to the Stormwater Program Manager of the City of Raleigh an accurate itemized statement of North Carolina Sales Taxes paid on materials, supplies, equipment, and other items charged to this contract, and otherwise fully comply with the "Procedure for Reporting North Carolina Sales Tax Expenditures.". A sales tax form must be submitted even if there is no sales tax incurred.
- H. Bidder agrees to begin work within 10 work days from the date of the Notice to Proceed.
- I. Bidder agrees that should the Owner reduce the scope of work by 25% or less of the Total Bid price prior to award of the contract, the lump sum and the unit price on all bid items shall remain unchanged.

- J. Bidder agrees that in the case of failure on his part to execute the said Contract and the Bonds within 15 consecutive calendar days after written notice being given of the award of the Contract, the check, cash or Bid Bond accompanying this Bid shall be paid into the funds of the Owner's Account set aside for this Project, as liquidated damages for such failure; otherwise the check, cash or Bid Bond accompanying this Bid shall be returned to the Bidder.
- K. Bidder agrees to provide all necessary tools, machinery, equipment, apparatus, and all other means necessary to do all the work and will furnish all labor, materials and all else required to complete such Contract as may be entered into, in the manner prescribed in and in accordance with the terms of the Specifications and Contract and in accordance with the true intent and meaning thereof, and in accordance with the Plans and/or Drawings and the requirements of the Engineers under them, in a first class manner.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 280 calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06.B of the General Conditions within 310 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times. This amount is agreed upon as the proper measure of liquidated damages the Owner will sustain, per day, by the failure of the undersigned to complete the work, within the stipulated time, and it is not to be construed, in any sense, as a penalty.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security in the form of a Bid Bond or Certified Check (Section 00430);
 - B. Contractor's Certificates, Affidavit of Organization and Authority of Sworn Statement (Section 00441);
 - C. City of Raleigh – Contractor's Poor Performance Policy (Section 00442);
 - D. Non-Collusive Affidavit (Section 00443);
 - E. Notice to Contractor Regarding Intrusions Beyond Project Limits (Section 00444);
 - F. Evidence of authority to do business in the state of the Project (i.e., copy of contractor's license);
- 7.02 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.
- 7.03 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 8 – DEFINED TERMS

8.01 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 9 – BID SUBMITTAL

9.01 Bidder's License

- A. Number: _____
- B. Classification: _____
- C. Limitation: _____
- D. Employer's Tax ID No.: _____
- E. Business Address: _____
- F. Phone No.: _____ Fax No.: _____
- G. Contact Person: _____ E-mail Address: _____
- H. Phone No. w/ Ext.: _____

9.02 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____

(Individual's signature)

Doing business as: _____

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 (typed or printed): _____

Title (typed or printed): _____

Attest: _____

(Signature of Corporate Secretary)

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title (typed or printed): _____

(CORPORATE SEAL)

Attest: _____

(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 (typed or printed): _____

Title (typed or printed): _____

BID BOND (PENAL SUM FORM)

Bidder Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Raleigh Address <i>(principal place of business)</i> : 222 W. Hargett Street Raleigh, NC 27601	Bid Project: Lake Johnson Principal Spillway Repairs Bid Due Date:
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
_____ <i>(Full formal name of Bidder)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature) (Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

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

CONTRACTOR'S CERTIFICATES
AFFIDAVIT OF ORGANIZATION AND AUTHORITY
AND
SWORN STATEMENT

STATE OF _____)

COUNTY _____)
OF _____

_____ being the first duly sworn on oath deposes and says that the Bidder on the attached Bid is organized as indicated below and that all statements herein made are made on behalf of such Bidder and that this deponent is authorized to make them.

(Fill Out Applicable Paragraph)

1. CORPORATION:

The Bidder is a Corporation organized and existing under the laws of the State of _____ and its President is _____ ; its Secretary is _____ , and it does have a corporate seal. The President is authorized to sign construction contracts and bids for the Company by action of its Board of Directors taken _____ a certified copy of which is hereto attached. (Strike out last sentence if not applicable.)

2. PARTNERSHIP:

The Bidder is a partnership consisting of _____ and _____ , partners doing business under the name of: _____

3. SOLE TRADER:

The Bidder is an individual and if operating under a trade name, such trade name is as follows: _____

4. ADDRESS:

The business address of the Bidder is as follows: _____

Its phone number is _____

Bidder
By: _____

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

Notary Public

My Commission Expires:

CITY OF RALEIGH
CONTRACTOR'S POOR PERFORMANCE POLICY

RESOLUTION NO. (1992) 790

A RESOLUTION TO REGULATE THE PARTICIPATION IN CITY CONSTRUCTION PROJECTS BY CONTRACTORS WHO MAY NOT BE CAPABLE OF TIMELY AND PROPER COMPLETION OF CITY PROJECTS.

WHEREAS, the City of Raleigh wishes to minimize cost and inconvenience to the citizenry caused by the failure of contractors to complete projects in a timely manner in accordance with approved project schedules; and

WHEREAS, North Carolina law allows cities to award bids to responsible bidders and the inability to complete work on time is one indication of a lack of responsibility.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RALEIGH:

Section 1. That the City Manager may disqualify bidders from participation in bidding and award of contracts for city construction projects based on the following conditions existing simultaneously:

- A. The dollar value of the work completed is less than the dollar value of the work which should have been completed on the basis of the contractor's approved progress schedule by more than twenty percent of the current contract amount. The dollar amount of the work completed will be the total estimate to date shown in the latest partial pay estimate. The current contract amount will be the contract estimate plus accumulated overruns and less accumulated underruns shown in the latest partial pay estimate.
- B. The percentage of the work completed is less than the percentage of contract time elapsed on the work by more than twenty percent. The percentage of work completed will be the dollar value of the work completed as defined above divided by the current contract amount as defined above. The percentage of contract time elapsed will be the number of calendar days elapsed as shown in the latest partial pay estimate divided by the total contract time in calendar days.

Section 2. The City Manager shall not include any late days which are caused by the City in any of his calculations directed at determining bid status.

Section 3. All City construction project specifications shall contain a specific provision clearly outlining the policies set out in this Resolution, including the criteria for determining whether a contractor is behind schedule, and the specifications shall clearly state the City's intent to enforce the provisions of this Resolution.

Section 4. The terms of this Resolution shall apply only to contracts for which the specifications for bidders are issued after the effective date of this Resolution.

Section 5. Any contractor who wishes to contest the decision of the City Manager declaring ineligibility may appeal to the City Council by delivering a notice of appeal to the City Clerk no later than ten days after receipt of the City Manager's decision. The notice of appeal shall clearly set out the reasons why the Contractor believes that the terms of this Resolution have been inappropriately applied or the equitable arguments for not applying this Resolution's terms. When considering an appeal the City Council shall consider, among other things, the report of the City manager, the notice of appeal, and the contractor's current status on any other current City contracts and its performance on any other contracts to which the contractor and the City have been parties to within the two calendar years immediately preceding the filing of the notice of appeal.

Section 6. Bidders so disqualified shall remain disqualified for any period in which they are still in conflict with the schedule provisions of this section.

Section 7. This Resolution is effective upon adoption.

ADOPTED: 10/6/92

EFFECTIVE: 10/6/92

I have read and understand the City of Raleigh's policy as stated above.

Signature

Printed Name

Title

Date

NON-COLLUSIVE AFFIDAVIT

State of _____)
)ss.
County of _____)

First being duly sworn deposes and says that:

- (1) He is the _____
(Owner, Partner, Officer, Representative or Agent)
of _____ the Bidder that has submitted the attached Bid;
- (2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost elements of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Contract;
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

BY _____

PRINTED OR TYPED NAME _____

ITS _____
(Title)

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

Notary Public My commission expires _____

END OF AFFIDAVIT

NOTICE TO CONTRACTOR REGARDING INTRUSIONS BEYOND PROJECT LIMITS

The Contractor and Owner hereby acknowledge that the Owner has acquired permanent and temporary easements on private property for the construction of the Project (the "Easements"), and that the Easements, together with public street rights-of-way (and previously acquired easements) comprise the sole areas where the Contractor is allowed to work on the Project, or to use for mobilization, access, staging, storage, and other purposes associated with the Project.

ANY OCCUPANCY OF OR INTRUSIONS ONTO PRIVATE PROPERTY OUTSIDE THE EASEMENTS OR RIGHTS-OF-WAY OWNED OR CONTROLLED BY THE CITY WILL CONSTITUTE A TRESPASS UPON PRIVATE PROPERTY AND MAY RESULT IN SERIOUS LEGAL CONSEQUENCES FOR THE CITY OF RALEIGH.

The Contractor shall be solely responsible for any intrusions onto private property outside the Easements or rights-of-way owned or controlled by the City. The Contractor hereby agrees to save, defend, hold harmless, and indemnify the City from all actions, claims, and liabilities , arising from such actions including, but not limited to, the payment of attorney's fees.

The only exception to the above stated limitations on the Contractor's work area will be in those instances where the Contractor has independently negotiated and secured agreements for temporary work and/or access privileges from Property Owners. These independently negotiated agreements must be in writing, and a copy of any such agreement shall be provided to the City in advance of any use or occupancy of private property pursuant to the agreement. The terms of any independently negotiated agreement shall clearly express to the Property Owner that the Contractor is seeking such use, occupancy, or access independently from the City of Raleigh and its Contract with the City of Raleigh, and that the Contractor shall be solely responsible for activities carried out on such areas.

I have read and understand the City of Raleigh's policy as stated above.

Signature

Printed Name

Title

Date

NOTICE OF AWARD

Date of Issuance:

Owner: City of Raleigh

Owner's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated [date] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for: [Describe Work, alternates, or sections of Work awarded]

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

[Number of copies sent] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

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

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

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

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

Owner: City of Raleigh

By (signature): _____

Name (printed): _____

Title: _____

Copy: Engineer

City of Raleigh

00510-1

Notice of Award

EJCDC® C-510, Notice of Award.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

AGREEMENT

INSTRUCTIONS TO CONTRACTORS AND REQUIREMENTS AS TO FORM FOR CITY OF RALEIGH, NC AGREEMENTS

DO NOT REMOVE FROM AGREEMENT

Please observe the following in executing the attached Contract:

1. The Owner may enter into an Agreement with three types of legal entities.
 - (a) If the Agreement is with an individual, that individual should sign the Agreement exactly as his name is set out. If the Agreement is with an individually-owned business, the Agreement should be with the individual owner, and not the named business.
 - (b) Execution on behalf of a corporation should be by an authorized corporate officer, with a second corporate officer signing to attest, with the corporate seal affixed. An official other than a corporate officer should attach documentation of their authority to execute and bind the company.
 - (c) If the Agreement is with a partnership, a general partner may execute unless an authorized partner is designated to execute. Documentation of such authorization should be attached.
2. After signing the Agreement, the appropriate notary's acknowledgement, either in the corporate form or individual/partnership form should be completed.
3. The Performance and Payment Bonds should be attached to the Agreement package. They should be signed by the Contractor, and his signature should be acknowledged with the appropriate acknowledge form. Next, the Bonds, in approved form, must be signed by the authorized agent of the Surety Company issuing the Bonds, and an executed Power of Attorney document authorizing the agent to sign must accompany the Bond Documents.
4. The Agreement should not be dated, except by the last person executing the Agreement, normally the City Clerk.
5. The Bid Form and all other documents submitted with the Bid shall be included with the Agreement and as noted in Article 9.
6. Page 00510 -1: If present, complete the Acceptance of Notice section on this page.
7. Pages 00520-3 through 00520-13: Complete in entirety.
8. Section 00610, 00615, 00616, 00617, and 00618: Complete in entirety.

9. Section 00618: Certificate of Insurance, Article 5 of the General and Supplementary Conditions requires the Certificate of Insurance to have those named as Additional Insured in each policy issued.
10. Most Certificates of Insurance state under the cancellation clause that "the issuing company will endeavor to mail 30 days written notice to the ..." and "but failure to mail such notice shall impose no obligation or liability of any kind upon the Company, its agents or representatives. Direct Notice of Cancellation endorsement is to be attached to corresponding Certificates of Insurance. With regard to expiration, cancellation, reduction, restriction, or any other change, certificates shall state:

"Should any of the following described policies be canceled before expiration date or be due to expire within thirty (30) days, the insurer shall mail thirty (30) days prior written notice to named certificate holder."
11. Four copies of the Contract are sent to the Contractor. The original and duplicates should be signed and returned to the Owner for signature, after which two duplicates will be returned to the Contractor. One copy may be retained by the Contractor and the other is for the use of the Bonding Company(s).
12. Failure to fully complete all four sets of the Contract Documents will cause delays in the approval by the Owner and therefore delay the issuance of the Notice to Proceed.

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT
CITY PURCHASE ORDER NO. enter number**

THIS AGREEMENT is by and between The City of Raleigh (Owner) and Contractor's Name (Contractor).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

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

Provision of all labor, tools, materials, equipment, supervision, services required and reasonably implied by the City of Raleigh Standard Detail Drawings and the Contract Documents to complete repairs to the principal spillway and selected areas along the upstream concrete apron. These repairs are in response to inspections finding numerous cracks in concrete and joints in need of repair.

ARTICLE 2 – THE PROJECT

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: Lake Johnson Principal Spillway Repairs.

The Project has been designed by AECOM Technical Services of North Carolina, Inc. (Engineer), which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents. The Owner may assign a Job Site Observer.

ARTICLE 3 – 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 Days to Achieve Substantial Completion and Final Payment

- A. The Work will be substantially completed within 90 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 120 days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

- B. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the

delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

- C. Substantial Completion: Contractor shall pay Owner \$1,000 per day amount beyond SC time for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete.
- D. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times or any proper extension thereof granted by Owner, Contractor shall pay Owner \$1,000 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.
- E. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- F. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 4 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A, 5.01.B, 5.01.C, and 5.01 D below:

The Contract Price shall not exceed the Total Contract amount of insert written out Contract Price here Dollars [insert Contract Price in numerical form here] unless changed by a duly authorized amendment or change order.

- A. For all Work other than Unit Price Work, a lump sum of

_____ Dollars (\$_____)

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

- B. For the Lump Sum for the following work items:

A. \$ _____

B. \$ _____

The Total Contract for the Lump Sum Price of: \$ _____

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item:

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 10.05 of the General Conditions.

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

ARTICLE 5 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

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

6.02 Progress Payments; Retainage

B. 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. All such payments will be measured by the schedule of values established as provided in Paragraph 2.05 of 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 in the General Requirements.

1. Prior to Final Completion, progress payments will be made in an amount equal to the percentage indicated in the Supplementary Conditions but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 15.01 of the General Conditions.

6.03 Final Payment

C. 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 of the General Conditions.

ARTICLE 6 – INTEREST

- 6.04 Once a Progress or Final Payment Application has been submitted by the contractor, recommended by the Engineer, and Approved by the Owner, if payment is not made, the Contractor will be due interest beginning on the 46th day following Owner acceptance at a rate of 1% per month or fraction thereof in accordance with NC General Statute 143-134.1(a).

ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS

- 6.05 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site 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 federal, state, and local 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 contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-5.03 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-5.06 of the Supplementary Conditions as containing reliable "technical data."
 - E. Contractor has considered the information known to Contractor; 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, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
 - F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that 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 Documents.
 - 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.

ARTICLE 8 – CONTRACT DOCUMENTS

6.06 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 00520-1 to 00520-9, inclusive).
 - 2. Performance bond (pages 00610-1 to 00610-4, inclusive).
 - 3. Payment bond (pages 00615-1 to 00615-4, inclusive).
 - 4. Certificate of Owner's Attorney (page 00616)
 - 5. Affidavit (page 00617)
 - 6. Certificate of Insurance (pages 00618-1 to 00618- , inclusive).
 - 7. General Conditions (pages 00700-1 to 00700-70, inclusive).
 - 8. Supplementary Conditions (pages 00800-1 to 00800-39, inclusive).
 - 9. Specifications as listed in the table of contents (pages 00010-1 to 32 93 00-11) of the Project Manual.
 - 10. Drawings consisting of fifteen (15) sheets with each sheet bearing the following general title: Lake Johnson Principal Spillway Repairs Design Drawings.
 - 11. Addenda as follows: [N/A]
 - 12. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (Sections 00410, 00411, and 00430).
 - b. Documentation submitted by Contractor prior to Notice of Award (City of Raleigh Bid Documentation; Sections 00441, 00442, 00443, and 00444).
 - c. Notice of Award (Section 00510).
 - 13. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (Section 00550).
 - b. Work Change Directives (Section 00940).

- c. Change Orders (Section 00941).
 - d. Field Orders (Section 00942).
 - e. Warranty Bonds, if any.
- 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 Contract.

ARTICLE 9 – MISCELLANEOUS

6.07 Terms

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

6.08 Assignment of Contract

- B. 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, moneys that may become due and moneys that are 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.

6.09 Successors and Assigns

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

6.10 Severability

- D. 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.
- E. Contractor's Certifications
- F. 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 any thing 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.

G. Right to Audit Clause

H. Contractor's, subcontractors' and sub-subcontractors' "records" shall upon reasonable notice be open to inspection and subject to audit and/or reproduction during normal business working hours. Such audits may be performed by a City's representative or an outside representative engaged by City. The City or its designee may conduct such audits or inspections throughout the term of this Contract and for a period of three years after final payment or longer if required by law. City's representatives may (without limitation) conduct verifications such as counting employees at the Construction Site, witnessing the distribution of payroll, verifying information and amounts through interviews and written confirmations with Contractor employees, field and agency labor, subcontractors, and vendors.

I. Such records shall include (hard copy, as well as computer readable data if it can be made available): written policies and procedures; time sheets; payroll registers; payroll records; cancelled payroll checks; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, negotiation notes, etc.); original bid estimates; estimating work sheets; correspondence; Change Order files (including documentation covering negotiated settlements); back charge logs and supporting documentation; invoices and related payment documentation; general ledger information detailing cash and trade discounts earned, insurance rebates and dividends; and any other Contractor records which may have a bearing on matters of interest to the City in its sole discretion in connection with the Contractor's dealings with the City, including but not limited to:

J. Compliance with Contract requirements for deliverables;

K. Compliance with Construction Documents;

L. Compliance with City's business ethics expectations;

M. Compliance with Contract provisions regarding the pricing of Change Orders;

N. Accuracy of Contractor representations regarding the pricing of invoices; or

- O. Accuracy of Contractor representations related to claims submitted by the Contractor or any of its payees.
- P. Contractor shall require all payees (examples of payees include subcontractors, material suppliers, insurance carriers, etc.) to comply with the provisions of this article by including the requirements hereof in a written contract agreement between Contractor and payee. Contractor will ensure that all payees (including those entering into lump sum contracts) have the same right to audit provisions contained in this Contract.
- Q. City's authorized representative or designee shall have reasonable access to the Contractor's facilities, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Contract and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with this article.
- R. If an audit, inspection or examination in accordance with this article, discloses overpricing or overcharges (of any nature) by the Contractor to the City in excess of one percent (1%) of the total contract billings, in addition to making adjustments for the overcharges, the reasonable actual cost of the City's audit shall be reimbursed to the City by the Contractor. Any adjustments and/or payments which must be made as a result of any such audit or inspection of the Contractor's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of City's findings to Contractor.
- S. The Contractor agrees to maintain all information pertaining to billing for services performed under this Contract in accordance with state law for public records. The Contractor shall afford the City access to these records for audit at such intervals as may be desired by the City. The Contractor shall also preserve the records for a period of three (3) years after Final Payment (or, alternatively, for a period of three years after termination of this Contract), or longer if required by law, during which time the City shall have access for audit purposes.
- T. The rights established under this section shall survive the expiration or termination of this Contract, and shall not be deleted, circumvented, limited, confined, or restricted by contract or any other section, clause, addendum, attachment or subsequent amendment to this Contract or any of the other Contract Documents.

6.11 Iran Divestment Act Certification

- A. Contractor certifies that, as of the date listed below, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. § 147-86.55, et seq. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. § 147-86.59, Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List.

6.12 E - Verify

- A. Contractor shall comply with E-Verify, the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law and as in accordance with N.C.G.S. §64-25 et seq. In addition, to the best of Contractor's knowledge, any subcontractor employed by Contractor as a part of this contract shall be in compliance with the requirements of E-Verify and N.C.G.S. §64-25 et seq.

6.13 Companies Boycotting Israel Divestment Act Certification

- A. Contractor certifies that it has not been designated by the North Carolina State Treasurer as a company engaged in the boycott of Israel pursuant to N.C.G.S. 147-86.81.

6.14 Applicability of North Carolina Public Records Law

- A. Notwithstanding any other provisions of this Contract, this Contract and all materials submitted to the City by the Contractor are subject to the public records laws of the State of North Carolina and it is the responsibility of the Contractor to properly designate materials that may be protected from disclosure as trade secrets under North Carolina law as such and in the form required by law prior to the submission of such materials to the City. Contractor understands and agrees that the City may take any and all actions necessary to comply with federal, state, and local laws and/or judicial orders and such actions will not constitute a breach of the terms of this Contract. To the extent that any other provisions of this Contract conflict with this paragraph, the provisions of this section shall control.

THIS SPACE LEFT BLANK INTENTIONALLY

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in quintuplicate. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

CITY OF RALEIGH, N.C.

****Name of Contractor****

By: _____

By: _____

Title: **City Manager or Authorized Designee**

Title: _____

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

Attest: **Louis Buonpane**

Attest: _____

Title: **City Clerk**

Title: _____

Address for giving notices:

Address for giving notices:

City of Raleigh

222 W. Hargett Street

Raleigh, North Carolina 27601

License No.: _____

THIS INSTRUMENT APPROVED AS TO FORM:

(Where applicable)

City Attorney

Agent for service of process:

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

NOTE: If the Contractor is a Corporation, the legal name of the Corporation shall be set forth above, together with the signature of the officer or officers authorized to sign contracts on behalf of the Corporation; if Contractor is a partnership, the true name of the firm shall be set forth above, together with the signatures of all the partners; and if Contractor is an individual, his signature shall be placed above. If signature is by an agent other than an officer of a Corporation or a member of a partnership, a Power of Attorney must be attached hereto. Signature of Contractor shall also be acknowledged before a Notary Public or other person authorized by law to execute such acknowledgement.

(PLEASE COMPLETE ACKNOWLEDGEMENTS)
(CORPORATE ACKNOWLEDGEMENT)

STATE OF NORTH CAROLINA
COUNTY OF WAKE

This is to certify that on the _____ day of _____, 20_____
before me personally came _____, with whom I am personally
acquainted, who, being by me duly sworn, says that ___he is the President and
_____ is the Secretary of _____, the
corporation described in and which executed the foregoing instrument: that (s)he knows the
common seal of said corporation: that the seal affixed to the foregoing instrument is said common
seal, and the name of the corporation was subscribed thereto by the said Secretary and the said
corporate seal was affixed, all by order of the Board of Directors of said corporation, and that the
said instrument is the act and deed of said corporation.

Witness my hand and official seal this _____ day of _____, 20_____

Notary Public

(SEAL)

My Commission Expires:

(CITY ACKNOWLEDGEMENT)

STATE OF NORTH CAROLINA
COUNTY OF WAKE

This is to certify that on the _____ day of _____, 20_____, before me
personally came R, with whom I am personally acquainted, who, being by me duly sworn, says
that he is the City Manager and Gail G. Smith is the City Clerk of the City of Raleigh, the municipal
corporation described in and which executed the foregoing: that she knows the corporate seal of
the said municipal corporation; that the name of the municipal corporation was subscribed thereto
by the said City Clerk and that the said corporate seal was affixed, all by order of the governing
body of said municipal corporation, and that the said instrument is the act and deed of said
municipal corporation.

Witness my hand and official seal this _____ day of _____ 20_____

Notary Public

(SEAL)

My Commission Expires:

NOTICE TO PROCEED

Owner: City of Raleigh Owner's Project No.: _____
Engineer: AECOM Engineer's Project No.: 60729221
Contractor: _____ Contractor's Project No.: _____
Project: Lake Johnson Principal Spillway Repairs
Contract Name: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [date Contract Times are to start] pursuant to Paragraph 4.01 of the General Conditions.

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

In accordance with the Agreement: [Insert number of days and dates.]

The number of days to achieve Substantial Completion is 90 days from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion of [date, calculated from commencement date above]; and the number of days to achieve readiness for final payment is 120 days from the commencement date of the Contract Times, resulting in a date for readiness for final payment of [date, calculated from commencement date above].

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

Contractor must set up signs and barricades as shown in the Pedestrian Control Plan in the Drawings. Contractor is responsible for protecting existing asphalt as needed prior to mobilization of equipment. Contractor is responsible for contacting 811 and ensuring positive response from all utility owners.

Owner: City of Raleigh
By (signature): _____
Name (printed): _____
Title: _____
Date Issued: _____
Copy: Engineer

PERFORMANCE BOND

Contractor Name: [Full formal name of Contractor] Address (as registered with Secretary of State, if applicable): [Address of Contractor]	Surety Name: [Full formal name of Surety] Address (as registered with Secretary of State, if applicable): [Address of Surety]
Owner Name: City of Raleigh Mailing address: 222 W. Hargett Street Raleigh, NC 27601	Contract Description (name and location): [Owner's project/contract name, and location of the project] Contract Price: [Amount from Contract] Effective Date of Contract: [Date from Contract]
Bond Bond Amount: [Amount] Date of Bond: [Date] <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☐ None ☐ See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor **satisfactorily** performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: None

PAYMENT BOND

Contractor Name: [Full formal name of Contractor] Address (as registered w/ Secretary of State, if applicable): [Address of Contractor]	Surety Name: [Full formal name of Surety] Address (as registered w/ Secretary of State, if applicable): [Address of Surety]
Owner Name: City of Raleigh Mailing address: 222 W. Hargett Street Raleigh, NC 27601	Contract Description (name and location): [Owner's project/contract name, and location of the project] Contract Price: [Amount, from Contract] Effective Date of Contract: [Date, from Contract]
Bond Bond Amount: [Amount] Date of Bond: [Date] <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☐ None ☐ See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that **is shall be** sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety

shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;

- 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;
 - 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: None

CERTIFICATE OF OWNER'S ATTORNEY

I hereby certify that I am the duly appointed attorney for the Owner of this project and that I have examined the foregoing instrument and Bond, and approve the same as being legal and in proper form.

This _____ day of _____, 20_____.

Attorney-at Law

CERTIFICATE OF PAYMENTS

I hereby certify that I am the legal and duly appointed Finance Officer for the Owner of this project and that provision for the payment of any monies due under this agreement has been made by appropriation duly made, or by Bonds or notes duly authorized, as required by the North Carolina Local Government Budget and Fiscal Control Act.

City of Raleigh

Date:_____

By:_____

Title:_____

AFFIDAVIT

(To be attached to all Contracts)

STATE OF _____)
) SS
COUNTY OF _____)

_____ being first duly sworn on oath deposes and says that (s)he is _____

(attorney-in-fact or agent) of _____

(bonding company) surety on the attached Contract on _____

_____ executed by _____ (Contractor).

Affiant further deposes and says that no officer, official, or employee of the Owner has any direct or indirect interest, or is receiving any premium, commission, fee, or other thing of value on account of the same or the furnishing of the Bond, undertaking, contract of indemnity, guaranty, or suretyship in connection with the above-mentioned contract.

Signed _____

Subscribed and sworn to before me this _____ day of _____, A.D., 20_____.

(Notary Public, _____ County, _____)

My Commission Expires _____.

PAGE FOR ATTACHING
CERTIFICATE OF INSURANCE

Contractor's Application for Payment

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

1. Original Contract Price	\$	-
2. Net change by Change Orders		
3. Current Contract Price (Line 1 + Line 2)	\$	-
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-
5. Retainage		
a. _____ X \$ - Work Completed	\$	-
b. _____ X \$ - Stored Materials	\$	-
c. Total Retainage (Line 5.a + Line 5.b)	\$	-
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-
7. Less previous payments (Line 6 from prior application)		
8. Contract Subtotal this application (Excludes Sales Tax)	\$	-
9. Sales Tax due this period		
10. Amount due this application	\$	-
11. Balance to finish, including retainage (Line 3 - Line 6)	\$	-

Contractor's Certification

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

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: _____	
Signature: _____	Date: _____

Recommended by Engineer By: _____ Title: _____ Date: _____ Approved by Funding Agency By: _____ Title: _____ Date: _____	Approved by Owner By: _____ Title: _____ Date: _____ By: _____ Title: _____ Date: _____
---	--

Contractor's Application for Payment

City of Raleigh 00620 Application for Payment
 Lump Sum EJCDC C-620 Contractor's Application for Payment 2 of 7
 (c) 2018 National Society of Professional Engineers for EJCDC. All rights reserved.

Contractor's Application for Payment

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

Contractor's Application for Payment

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

City of Raleigh
Unit Price

00620
EJCDC C-620 Contractor's Application for Payment
(c) 2018 National Society of Professional Engineers for EJCDC. All rights reserved.

Application for Payment
4 of 4

Contractor's Application for Payment

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

Application Date: _____

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

Contractor's Application for Payment

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

Application No.:	Application Period:	From	to	Application Date:
------------------	---------------------	------	----	-------------------

[illegible]

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: City of Raleigh
Engineer:
Contractor:
Project:
Contract Name:

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

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

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

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

Date of Substantial Completion: [Enter date, as determined by Engineer]

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

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

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

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

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

[List amendments to Owner's Responsibilities]

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

[List amendments to Contractor's Responsibilities]

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

[List attachments such as punch list; other documents]

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

Engineer

By *(signature)*: _____
Name *(printed)*: _____
Title: _____

PAGE FOR ATTACHING

POWER OF ATTORNEY

*Note: If the recorded POA from the Register of Deeds
is attached, page 00634-2 is not necessary.*

STATE OF NORTH CAROLINA
COUNTY OF _____

This is to certify that on the _____ day of _____, 20__, before me personally appeared before me to the undersigned Notary Public, _____ who, being first duly sworn, acknowledged the due execution of the foregoing instrument for the purpose therein stated.

Witness my hand and notarial seal this the _____ day of _____, 20__.

(SEAL)

Notary Public

My Commission Expires:

STATE OF NORTH CAROLINA
COUNTY OF _____

This is to certify that on the _____ day of _____, 20__, before me personally came _____, with whom I am personally acquainted, who, being by me duly sworn, says that (s)he is the President and _____ is the Secretary of _____, Incorporated, the corporation described in and which executed the foregoing instrument; that (s)he knows the common seal of said corporation; that the seal affixed to the foregoing instrument is said common seal, and the name of the corporation was subscribed thereto by the said Secretary and the said corporate seal was affixed, all by order of the Board of Directors of said corporation, and that the said instrument is the act and deed of said corporation.

Witness my hand and notarial seal this the _____ day of _____, 20__.

(SEAL)

Notary Public

My Commission Expires:

STATE OF NORTH CAROLINA
COUNTY OF _____

I, _____, a Notary Public duly commissioned and qualified to act in _____ County, State of _____, do hereby certify that _____, Attorney-in Fact for _____, a corporation, personally appeared before me this day, and being by me duly sworn, says that (s)he executed the foregoing and attached Payment and Performance Bonds, dated _____, 20__, for and in behalf of _____ as Surety and that his authority to execute and acknowledge said Bonds is contained in an instrument duly executed, acknowledged, and recorded in the Office of Register of Deeds of _____ County, State of _____, on the _____ day of _____, 20__, being recorded in Book Number _____, Page _____, of said Registry, and that the foregoing and attached Bonds were executed under and by virtue of the authority given by said instrument granting (him) (her) the said _____, Power of Attorney; and that the said _____, Attorney-in-Fact, acknowledged the due execution of the foregoing and annexed Bonds for the purpose therein expressed for and in behalf of said _____.

Witness my hand and notarial seal this the _____ day of _____, 20__.

(SEAL)

Notary Public

My Commission Expires:

00700
STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology	6
Article 2—Preliminary Matters	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents	7
2.03 Before Starting Construction	7
2.04 Preconstruction Conference; Designation of Authorized Representatives	8
2.05 Acceptance of Schedules	8
2.06 Electronic Transmittals	8
Article 3—Contract Documents: Intent, Requirements, Reuse.....	9
3.01 Intent.....	9
3.02 Reference Standards.....	9
3.03 Reporting and Resolving Discrepancies	10
3.04 Requirements of the Contract Documents.....	10
3.05 Reuse of Documents	11
Article 4—Commencement and Progress of the Work	11
4.01 Commencement of Contract Times; Notice to Proceed.....	11
4.02 Starting the Work.....	11
4.03 Reference Points	11
4.04 Progress Schedule	12
4.05 Delays in Contractor’s Progress	12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	13
5.01 Availability of Lands	13
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	15

5.04	Differing Subsurface or Physical Conditions	16
5.05	Underground Facilities.....	17
5.06	Hazardous Environmental Conditions at Site	19
Article 6—Bonds and Insurance.....		21
6.01	Performance, Payment, and Other Bonds	21
6.02	Insurance—General Provisions.....	22
6.03	Contractor’s Insurance.....	24
6.04	Builder’s Risk and Other Property Insurance	25
6.05	Property Losses; Subrogation	25
6.06	Receipt and Application of Property Insurance Proceeds	27
Article 7—Contractor’s Responsibilities		27
7.01	Contractor’s Means and Methods of Construction	27
7.02	Supervision and Superintendence	27
7.03	Labor; Working Hours	27
7.04	Services, Materials, and Equipment	28
7.05	“Or Equals”	28
7.06	Substitutes	29
7.07	Concerning Subcontractors and Suppliers.....	31
7.08	Patent Fees and Royalties.....	32
7.09	Permits	33
7.10	Taxes	33
7.11	Laws and Regulations.....	33
7.12	Record Documents.....	33
7.13	Safety and Protection	34
7.14	Hazard Communication Programs	35
7.15	Emergencies.....	35
7.16	Submittals	35
7.17	Contractor’s General Warranty and Guarantee	38
7.18	Indemnification	39
7.19	Delegation of Professional Design Services	39
Article 8—Other Work at the Site.....		40
8.01	Other Work	40
8.02	Coordination	41

8.03	Legal Relationships.....	41
Article 9—Owner’s Responsibilities		42
9.01	Communications to Contractor	42
9.02	Replacement of Engineer	42
9.03	Furnish Data	42
9.04	Pay When Due.....	42
9.05	Lands and Easements; Reports, Tests, and Drawings.....	43
9.06	Insurance.....	43
9.07	Change Orders	43
9.08	Inspections, Tests, and Approvals.....	43
9.09	Limitations on Owner’s Responsibilities	43
9.10	Undisclosed Hazardous Environmental Condition.....	43
9.11	Evidence of Financial Arrangements.....	43
9.12	Safety Programs	43
Article 10—Engineer’s Status During Construction		44
10.01	Owner’s Representative.....	44
10.02	Visits to Site.....	44
10.03	Resident Project Representative.....	44
10.04	Engineer’s Authority	44
10.05	Determinations for Unit Price Work	45
10.06	Decisions on Requirements of Contract Documents and Acceptability of Work	45
10.07	Limitations on Engineer’s Authority and Responsibilities	45
10.08	Compliance with Safety Program.....	45
Article 11—Changes to the Contract		46
11.01	Amending and Supplementing the Contract	46
11.02	Change Orders	46
11.03	Work Change Directives.....	46
11.04	Field Orders.....	47
11.05	Owner-Authorized Changes in the Work	47
11.06	Unauthorized Changes in the Work.....	47
11.07	Change of Contract Price	47
11.08	Change of Contract Times.....	49
11.09	Change Proposals.....	49

11.10	Notification to Surety.....	50
Article 12—Claims.....		50
12.01	Claims	50
Article 13—Cost of the Work; Allowances; Unit Price Work		51
13.01	Cost of the Work	51
13.02	Allowances	55
13.03	Unit Price Work	55
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work		56
14.01	Access to Work.....	56
14.02	Tests, Inspections, and Approvals.....	56
14.03	Defective Work	57
14.04	Acceptance of Defective Work.....	58
14.05	Uncovering Work	58
14.06	Owner May Stop the Work	58
14.07	Owner May Correct Defective Work.....	59
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period		59
15.01	Progress Payments.....	59
15.02	Contractor’s Warranty of Title	62
15.03	Substantial Completion.....	62
15.04	Partial Use or Occupancy	63
15.05	Final Inspection	64
15.06	Final Payment.....	64
15.07	Waiver of Claims	65
15.08	Correction Period	66
Article 16—Suspension of Work and Termination		67
16.01	Owner May Suspend Work	67
16.02	Owner May Terminate for Cause.....	67
16.03	Owner May Terminate for Convenience.....	68
16.04	Contractor May Stop Work or Terminate	68
Article 17—Final Resolution of Disputes		69
17.01	Methods and Procedures.....	69
Article 18—Miscellaneous		69
18.01	Giving Notice	69

18.02	Computation of Times.....	69
18.03	Cumulative Remedies	70
18.04	Limitation of Damages	70
18.05	No Waiver	70
18.06	Survival of Obligations	70
18.07	Controlling Law	70
18.08	Assignment of Contract.....	70
18.09	Successors and Assigns	70
18.10	Headings.....	70

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*: The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
 - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor's Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner's Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

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

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any 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 take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

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

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

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

4.02 *Starting the Work*

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

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

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

5.01 *Availability of Lands*

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

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings*: The Supplementary Conditions identify:

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

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

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

- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

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

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

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

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer's Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

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

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

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

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

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

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

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

7.10 *Taxes*

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

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

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

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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

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

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 - 1. Observations by Engineer;
 - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. Use or occupancy of the Work or any part thereof by Owner;
 - 5. Any review and approval of a Shop Drawing or Sample submittal;
 - 6. The issuance of a notice of acceptability by Engineer;
 - 7. The end of the correction period established in Paragraph 15.08;
 - 8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.

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

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

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

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

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

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

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

9.03 *Furnish Data*

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

9.04 *Pay When Due*

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

- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
 - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
 - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 *Insurance*
- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 *Evidence of Financial Arrangements*
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
 - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

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

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

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

10.05 *Determinations for Unit Price Work*

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

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

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

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

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

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

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

10.08 *Compliance with Safety Program*

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

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

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

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

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

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

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

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

- B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

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

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

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

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

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

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

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

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

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

18.09 *Successors and Assigns*

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

18.10 *Headings*

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

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 - Definitions and Terminology	2
Article 2 - Preliminary Matters	3
Article 3 - Contract Documents: Intent, Requirements , Reuse.....	3
Article 4 - Commencement and Progress of the Work.....	3
Article 5 - Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	5
Article 6 - Bonds and Insurance	7
Article 7 - Contractor's Responsibilities	21
Article 8 - Other Work at the Site.....	27
Article 9 - Owner's Responsibilities	28
Article 10 - Engineer's Status During Construction	28
Article 11 - Changes to the Contract	31
Article 12 - Claims	31
Article 13 - Cost of the Work; Allowances; Unit Price Work	31
Article 14 - Tests and Inspections; Correction, Removal, or Acceptance of Defective Work	33
Article 15 - Payments to Contractor; Set-offs; Completion; Correction Period	34
Article 16 - Suspension of Work and Termination.....	37
Article 17 - Final Resolution of Disputes.....	38
Article 18 - Miscellaneous	39

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added—for example, “Paragraph SC-4.05.”

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

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 per City of Raleigh standards. Standard form to be used as a summary and signature sheet is included in Section 00620. Contractor shall use the City’s standard computerized forms, as included in these Contract Documents, for providing detail payment breakdown as an attachment to summary sheet. Contractor shall also include as part of the Application for Payment the “Certificate of the Contractor or His Duly Authorized Representative”.

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 the City of Raleigh standard. The Standard Form to be used is included in these Contract Documents.

SC-1.01.A.9. Add the following language to the end of Paragraph 1.01.A.9:

The Change Proposal form to be used on this Project is the City of Raleigh standard. The Standard Form to be used is included in these Contract Documents.

SC-1.01.A.42. Amend the first sentence of Paragraph 1.01.A.42 to read as follows:

The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer and Owner, 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.

SC-1.01.A.51. Add the following definitions after Paragraph 1.01.A.50:

A.51 *City* – City of Raleigh.

A.54 *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.

A.55 *Small Tools* - Tools and equipment with an individual cost of less than \$1,000.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

SC-2.01.A Amend the first sentence of Paragraph 2.01.A by striking out the following words:

“(if the Contract requires Contractor to furnish such bonds).”

2.02 *Copies of Documents*

SC-2.02.A Delete the word "four" and insert "five" in its place in Paragraph 2.02.A.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, REQUIREMENTS , REUSE

3.01 *Intent*

SC-3.01 Add the following new paragraphs immediately after Paragraph 3.01.G:

H. The Contract Drawings may be supplemented from time to time with additional Drawings by the Engineer as may be required to illustrate the Work or, as the Work progresses, with additional Drawings, by the Contractor, subject to the approval of the Engineer. Supplementary Drawings, when issued by the Engineer or by the Contractor, after approval by the Engineer, shall be furnished in sufficient quantity to all those who, in the opinion of the Engineer, are affected by such Drawings.

ARTICLE 4 - COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

SC-4.01.A Delete Paragraph 4.01.A in its entirety and insert the following in its place:

The Contract Times will commence to run on the day indicated in the Notice to Proceed; but in no event will the Contract Time commence to run later than the thirtieth day after the effective date of the Agreement. By mutual consent of the parties to the Contract, these time limits may be changed.

4.05 *Delays in Contractor's Progress*

SC-4.05.C Amend Paragraph 4.05.C by adding the following subparagraphs:

5. *Weather-Related Delays*

a. If “abnormal weather conditions” as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data

substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions adversely affected an activity on the critical path to completion of the Work, as of the time of the weather condition.

b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following.

1) Bad Weather Day: a workday where weather conditions adversely affect the Work and the impacted Work is on the critical path.

a) Determination of actual Bad Weather Days during performance of the Work will be based on weather at the Site. When Site weather data is not available, use nearest USGS weather station data.

b) A workday after a daily rainfall amount greater than 1 inch will be considered an additional Bad Weather Day, subject to having an adverse effect on the Work as scheduled.

2) Foreseeable Bad Weather Days: determination of Foreseeable Bad Weather Days during performance of the Work will be based on the weather records measured and recorded by the National Oceanic & Atmospheric Administration, National Centers for Environmental Information (NOAA-NCEI) at the nearest weather monitoring station. For example, one source of weather records is from the NOAA-NCEI website: <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>. From the website, click on the "View Station Report" link to find the Summary of Monthly Totals report.

a) Contractor shall anticipate and factor into its bid and construction schedule the number of Foreseeable Bad Weather Days per month.

3) Abnormal Weather Conditions: is defined as the total Bad Weather Days in each month minus the Foreseeable Bad Weather Days.

a) The existence of Abnormal Weather Conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by Abnormal Weather Conditions are specific to the planned work activities or that such activities thus delayed were on Contractor's then-current Progress Schedule's critical path for the Project.

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

H. Claims for additional Contract Time for delays beyond the Contractor's control shall be submitted within 30 days following the event(s) that caused the delay.

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

5.02 *Use of Site and Other Areas*

SC-5.02.A Delete Paragraph 5.02.A.2 in its entirety and insert the following in its place:

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 its Derivative Parties (as defined in SC-7.18.E.3), Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise and (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction. In addition, the Contractor's indemnity, defense and hold harmless obligations to the Indemnified Parties (as defined in SC-7.18.A) under SC-7.18 shall apply as to any and all Losses (as defined in SC-7.18.E.2), liabilities, damages, expenses and costs arising out of, resulting from, or in connection with any and all claims or actions brought by any such owner or occupant against one or more of the Indemnified Parties when the Fault of the Contractor or its Derivative Parties is a proximate cause of the Losses, liabilities, damages, expenses and costs so indemnified. Provided, however, nothing herein shall require the Contractor to indemnify the Indemnified Parties against any Losses, liabilities, damages, expenses and costs arising out of, resulting from, or in connection with any negligent acts of one or more of the Indemnified Parties.

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. Subsurface data beyond the existing conditions survey in the contract documents is not available for Lake Johnson. Work is primarily surficial.
- F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data in the drawings upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
Contract Drawings	2/6/2026	Existing conditions and known structures; locations of repairs

5.05 *Underground Facilities*

SC-5.05.A Add the following new subparagraphs immediately after Subparagraph 5.05.A.5:

6. following the North Carolina General Statutes, Chapter 87, Article 8 Underground Damage Prevention;
7. notifying owners of Underground Facilities prior to start of Work;
8. investigating ahead of the Work to verify the existence of Underground Facilities;
9. assuming risks and repairing damage caused by the Work to existing Underground Facilities whether indicated or not in the Contract Documents. Repairs to Underground Facilities shall be done to the satisfaction of the Underground Facility owner. Underground Facility owner reserves the right to repair damage by the Contractor to their Underground Facilities. If the owner exercises this right, the owner's cost of this Work shall be deducted from the money due the Contractor;
10. uncovering Underground Facilities, with that Owners approval, that are located within the Work as necessary for Engineer to determine the requirements for the change in the Work;
11. unforeseen Underground Facilities unless a design change is required; this includes Underground Facilities not shown on the Drawings/ Bidding Documents. The Engineer and the Owner assume no responsibility for the locations of Underground Facilities shown or not shown. There will be no compensation for "lost time" due to unforeseen utilities. If existing Underground Facilities require change(s) to the design, the Contractor shall provide a price to complete revised Work.

5.06 *Hazardous Environmental Conditions at Site*

SC-5.06.A Add the following new subparagraph immediately after subparagraph 5.06.A.3:

4. No known environmental hazards are present within the working area at Lake Johnson.

SC-5.06.B Delete Paragraph 5.06.B in its entirety and insert the following:

B. Not used.

SC-5.06.I In the first line, insert "North Carolina" between "by" and "Laws".

SC-5.06.I Add the following language at the end of Paragraph 5.06.I:

The parties understand and acknowledge that no North Carolina case, statute, or Constitutional provision authorizes a local government to indemnify a Contractor and that this contract provision may be unenforceable.

SC-5.06.J Delete Paragraph 5.06.J in its entirety and insert the following in its place:

- J. Contractor's indemnity, defense and hold harmless obligations to the Indemnified Parties under SC-7.18 shall apply as to any and all Losses, liabilities, damages, expenses and costs caused by, arising out of, resulting from, or in connection with the Contractor's or its Derivative Parties' failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or its Derivative Parties, or to a Hazardous Environmental Condition created by Contractor or its Derivative Parties when the Fault of the Contractor or its Derivative Parties is a proximate cause of the Losses, liabilities, damages, expenses and costs so indemnified. Provided, however, nothing herein shall require the Contractor to indemnify the Indemnified Parties against any such Losses, liabilities, damages, expenses and costs arising out of, resulting from, or in connection with any negligent acts of one or more of the Indemnified Parties.

ARTICLE 6 - BONDS AND INSURANCE

Article 6 Delete Article 6 in its entirety and insert the following in its place:

SC-6.01 *Performance and Payment Bonds*

- A. Concurrent with execution of the Contract and within fifteen (15) days of the Notice of Award, the successful Contractor shall procure, execute and deliver to the Owner and maintain, at Contractor's own cost and expense, the following bonds, in the forms included (Sections 00610 and 00615), of a surety company approved by the State of North Carolina as a Surety:
- B. Performance Bond - in an amount not less than 100% of the total amount payable to the Contractor by the terms of the Contract as security for the faithful performance of the Work. Bond must be valid until one year after the date of issuance of the certificate of Substantial Completion.
- C. Payment Bond - in an amount not less than 100% of the total amount payable to the Contractor by the terms of the Contract as security for the payment of all persons performing labor and furnishing material in connection with the Work. Bond must be valid until one (1) year after date of issuance of the certificate of Substantial Completion.
- D. All bonds signed by an agent must be accompanied by a certified copy of the authority to act.
- E. If the surety on any bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business in the State of North Carolina is revoked, the Contractor shall within five (5) days thereafter substitute another.

SC-6.02 *Insurance Requirements*

- A. The Owner shall not be required under this Contract to procure or maintain any insurance for the Project or for the benefit of the Project participants.
- B. The Contractor shall ensure that it and all its Subcontractors shall procure and maintain insurance as required herein and as required by Laws and Regulations.

- C. 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 to do business in the state of North Carolina and to issue insurance policies for the required limits and coverages. Unless a different standard is authorized by the Owner in writing, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- D. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract.
- E. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- F. Owner, only if specified in this agreement, shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). None Required.
- G. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- H. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's sole option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- I. Contractor shall require:
 - 1. Subcontractors to purchase and maintain workers' compensation, commercial general liability and other insurance coverages required by Contractor where appropriate and applicable for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability, automobile liability, and excess or umbrella insurance policy. Owner, Engineer and other additional insureds shall be covered under Subcontractors' commercial general liability and any umbrella

insurance with respect to liabilities arising out of both ongoing and completed operations of Subcontractor(s). Such additional insured coverage shall be subject to the terms of ISO additional insured endorsement forms CG 20 10 (ongoing operations) and CG 20 37 (products-completed operations), or substitute form(s) providing equivalent coverage and utilizing 10/01 as the edition date of the ISO endorsements; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project; and
 3. If the Scope of Work to be performed and/or the work site and surrounding area creates a special or high risk exposure to on-site individuals or the public, the Owner reserves the right to require the Contractor to ensure its Subcontractors, Suppliers, or categories of Subcontractor or Supplier, to provide specific insurance with policy limits as follows: none
- J. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- K. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, without at least 30 days prior written to Owner (10 days for cancellation due to non-payment of premium). Direct Notice of Cancellation endorsement is to be attached to corresponding certificates of insurance. In the event of any such cancellation, non-renewal or material limitation, the Contractor or subcontractor, as applicable, is obligated to replace such insurance within seven (7) days of any such cancellation, non-renewal or material limitation without a gap in coverage and file accordingly such notice with the Owner and other interested parties.
- O. The Work under this Contract shall not commence until the Contractor has verified to the Owner that all required insurance coverage as described herein, have been obtained and verifying Certificates of Insurance have been approved in writing by the

Owner. The Owner's review and/or acceptance of certificates of insurance shall neither relieve Contractor of any requirement to provide the specific coverages set forth herein nor shall it constitute a waiver or acknowledgement of satisfaction of the specific insurance coverage requirements set forth in this Contract.

1. The Description of Operations/Locations/Vehicles section in the certificates of insurance should include the City of Raleigh Department/Division, Name of Project or Services, Project Dates of contract.

The Certificate holder address should read:

City of Raleigh
Post Office Box 590
Raleigh, NC 27602-0590

SC-6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, Automobile Liability, Excess/Umbrella insurance and any other insurance specified within these Supplementary Conditions. Any and all deductibles and Self-insured Retentions (SIRs) in the insurance policies shall be assumed by, and at the sole risk of the Contractor.
- B. *Supplemental Provisions:* The policies of insurance required by this SC-6.03 as supplemented must:
 1. include at least the specific coverages required;
 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable;
 5. be primary and noncontributory, evidenced by ISO form CG 20 01 04 13 (Primary and Non-Contributory – Other Insurance condition) endorsement or its equivalent, with respect to the Owner's insurance or self-insurance to the extent of the Contractor's liability hereunder. Any other insurance or self-insurance maintained by the Owner shall be excess of, and non-contributory with the coverage afforded by Contractor's commercial general liability insurance and commercial umbrella insurance, if any;
 6. provide for reinstatement of full coverage after payment of any claim;

7. state insurers have no right of recovery or subrogation against the Owner, its agents and agencies and shall have no recourse against them for the payment of any premiums or assessments under any form of policy; and
 8. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must:
1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in this agreement;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 3. afford primary and noncontributory coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations); and
 4. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.
- D. *Other Additional Insureds*: If specified herein, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: **none**.
- E. *Workers' Compensation and Employer's Liability*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance 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).

Workers' Compensation and Related Policies	Policy limits of not less than:
Workers' Compensation	
North Carolina - State	Statutory
Employer's Liability	
Each accident	\$1,000,000

Workers' Compensation and Related Policies	Policy limits of not less than:
Each employee	\$1,000,000
Policy limit	\$1,000,000

F. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
2. damages insured by reasonably available personal injury and advertising liability coverage, and
3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

G. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy must be written on an Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
 - a. Such insurance must be maintained for the period of the applicable statute of repose for any and all claims that may arise from operations of this Contract.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in herein or elsewhere in the Contract) certificates of insurance evidencing continuation of such insurance at final payment and for the period of the applicable statute of limitations and repose.
2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in this Contract in accordance with ISO policy form CG 00 01.
 - a. Premises/Operations liability
 - b. Underground fault, explosion, and collapse coverage
 - c. Independent Contractor's and Independent Subcontractor's coverage
 - d. Broad form property damage
 - e. Personal injury and advertising coverage
 - f. Cross Liability/Severability of Interest clause
 - g. Employer's Stop Gap Liability endorsement, if applicable

- i. Amendment of the Pollution Exclusion Endorsement to allow coverage for bodily injury or property damage caused by heat, smoke, or fumes from a hostile fire
 - j. Designated General Aggregate Limit Endorsement, if required in Contract
 - k. Products completed operations including construction defect and contractual liability
 - l. Insurance coverage limits to be on a “per project” basis
- 3. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 - 4. For design professional additional insureds, ISO Endorsement CG 20 32 07 13 “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
- 1. Any modification of the standard definition of “insured contract” (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 - 2. Any exclusion for water intrusion or water damage.
 - 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 - 4. Any exclusion of coverage relating to earth subsidence or movement.
 - 5. Any exclusion for the insured’s vicarious liability, strict liability, or statutory liability (other than worker’s compensation).
 - 6. Any limitation or exclusion based on the nature of Contractor’s Work.
 - 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$5,000,000
Products—Completed Operations Aggregate	\$5,000,000
Bodily Injury and Property Damage—Each	\$2,000,000

Commercial General Liability	Policy limits of not less than:
Occurrence	
Personal and Advertising Injury	\$2,000,000

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle owned, hired or otherwise operated or used by or on behalf of the Contractor or any of its Derivative Parties and as used in the execution of the Work. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage) (Any/Owned, Hired, and Leased)	\$1,000,000

- K. *Umbrella or Excess Liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies using a follows form coverage for all layers and coverage shall remain continuously in effect and without interruption from the date of commencement of construction until the end of the applicable statute of limitations and repose.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$2,000,000
General Aggregate	\$2,000,000

- L. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and limits of an umbrella or excess liability policy.
- M. *Contractor's Pollution Liability Insurance:* Contractor shall purchase and maintain a policy that must include Asbestos Legal Liability and Errors and Omissions due to potential environmental hazards.
- Coverage shall apply to the scope of work described in this Contract including transportation and shall include coverage for bodily injury, property damage, including loss of use of damaged property, clean-up costs, mold, defense and investigative costs. Contractor shall maintain Completed Operations coverage for three (3) years following final acceptance of the project or termination of the Contract.
 - If the insurance policy is written on a claims-made basis, Contractor warrants that continuous coverage will be maintained or an extended discovery period will

be exercised for a period of three (3) following final acceptance of the Work under the Contract is completed or termination of the Contract..

3. If coverage is canceled or non-renewed, and not replaced with another claims made policy form with a retroactive date prior to the Contract effective date or start of work date the Contractor must purchase an extended period coverage for a minimum of five (5) years following final acceptance of the Work or termination of the Contract.. A copy of the claims reporting requirements must be submitted to Owner for review. Pollution Liability shall not contain lead-based paint or asbestos exclusions.

This insurance must be maintained for no less than three years after final completion.

Contractor's Pollution Liability	Policy limits of not less than:
Each Occurrence/Claim	\$3,000,000
General Aggregate	\$3,000,000

- N. *Contractor's Professional Liability Insurance:* If Contractor will provide or furnish professional services under this *Contract*, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance to protect Owner from liability arising out of or resulting from the performance of professional services by Contractor or its Derivative Parties.

1. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable and shall contain full prior acts coverage.
2. Coverage shall not include any exclusions or limitations related to a) Scope of professional services; b) Delays in project completion or cost overruns; c) Who is authorized to notify the carrier of a claim or a potential claim; and d) Mold, fungus, asbestos, pollutants or hazardous substances.
3. The insurance must be maintained continuously throughout the duration of the Contract and through the applicable statute of limitations and repose.
4. Claims made coverage is permitted providing the retroactive date on the policy pre-dates the commencement of furnishing services on the Project.

Contractor's Professional Liability	Policy limits of not less than:
Each Claim	\$1,000,000
Annual Aggregate	\$3,000,000

- O. *Railroad Protective Liability Insurance:* Prior to commencing any Work within 50 feet of railroad-owned and controlled property, Contractor shall (1) endorse its commercial general liability policy with ISO CG 24 17, removing the contractual liability exclusion for work within 50 feet of a railroad, (2) purchase and maintain railroad protective liability insurance from an insurer or directly from the subject

railroad(s) meeting their specific requirements, (3) furnish a copy of the endorsement to Owner, and (4) submit a copy of the railroad protective policy and other railroad-required documentation to the railroad, and notify Owner of such submittal.

Railroad Protective Liability Insurance	Policy limits of not less than:
Each Claim	\$6,000,000
Aggregate	\$6,000,000

P. *Unmanned Aerial Vehicle Liability Insurance:* If Contractor or its Subcontractors uses unmanned aerial vehicles (UAV—commonly *referred* to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, Engineer, and all individuals and entities identified herein as additional insureds; and provide a certificate to Owner confirming Contractor's compliance with this requirement.

1. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy. The operator of the aircraft and their insurer(s) must hold the Owner and all additional insureds harmless and waive subrogation with respect to damage to the aircraft. If the aircraft is to be used to perform lifts at the Site, a "slung cargo" endorsement must be included to cover the full replacement value of any equipment being lifted.

Unmanned Aerial Vehicle Liability Insurance	Policy limits of not less than:
Each Claim	\$1,000,000
General Aggregate	\$1,000,000

Q. *Other Required Insurance:* **none.**

SC-6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk:* If applicable, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in this Section or required by Laws and Regulations) and name the Owner a Loss Payee on the insurance coverage(s).
- B. *Property Insurance for Facilities of Owner Where Work Will Occur:* Owner is responsible for obtaining and maintaining property insurance covering each Owner owned structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities:* Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-

risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

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

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

F. *Builder's Risk Requirements*: The builder's risk insurance must:

1. be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks:

Blasting and explosion, fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; collapse of or structural injury to any structure due to the Contractor's operations; damage to underground structures, pipes or conduits; debris removal; demolition occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).

- a. The builder's all-risk coverage shall not contain an exclusion for resulting damage caused by faulty workmanship, design or materials.
 - b. 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 will be provided through other insurance policies acceptable to Owner and Contractor.
2. 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.

3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of Contractors, Engineers, and Architects).
4. 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).
5. extend to cover damage or loss to insured property while in transit.
6. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
7. allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
8. include performance/hot testing and start-up, if applicable.
9. be maintained in effect until the Work is complete, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.
10. include as named insureds the Owner, Contractor, Subcontractors (of every tier), all lenders with security interests in the Site or the Project, and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of SC-6.04, SC-6.05, and SC-6.06 of this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds." In addition to Owner, Contractor, and Subcontractors of every tier, include as insureds the following:
 - a. None.
11. if applicable, 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.

G. Installation Floater

1. Not required.

H. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.

1. The builder's risk policy (or if applicable the installation floater) will be subject to a deductible amount of no more than **\$10,000** for direct physical loss in any one occurrence.

SC-6.05 Property Losses; Subrogation/Waiver of Rights

- A. The builder's risk insurance policy purchased and maintained in accordance with SC-6.04 (or an installation floater policy if new construction is limited and authorized by the Owner), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.
 1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03 as modified by these Supplemental Conditions, or after final payment pursuant to Paragraph 15.06 as modified by these Supplemental Conditions, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
 1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this SC-6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or

damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

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

SC-6.06 Receipt and Application of Property Insurance Proceeds

- A. Any insured loss under the builder's risk and other policies of property insurance required by SC-6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after receipt of 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 SC-6.04 shall maintain such proceeds in a segregated account and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7 - CONTRACTOR'S RESPONSIBILITIES

7.02 *Supervision and Superintendence*

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

C. Contractor's On-Site Supervision: For pipeline Contractors who have more than two construction crews performing work under one contract, a general superintendent shall be assigned to the Project Site to supervise all construction crews on site. The general superintendent shall be responsible for addressing any construction related issues from the Owner, the Engineer, and/or the Department of Transportation having jurisdiction.

7.03 *Labor; Working Hours*

SC-7.03 Add the following new paragraphs immediately after Paragraph 7.03.C:

D. Regular Working Hours: 8:00 am to 5:00 pm, Eastern Standard Time.

E. Overtime Work: If Contractor's Work requires inspection, as determined by the Owner, 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 Owner five (5) working days prior to the scheduled Work. Contractor shall pay for the Resident Project Representative's time beyond the above hours at the rate of \$100 / hour.

F. Paragraph 7.03.C will not prevent the Contractor from working outside the regular working hours provided the work 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 submit a written request to the Owner one (1) working day prior to the scheduled Work.

G. Contractor shall not be charged for RPR's time for Work specifically identified by the Contract Documents to be performed outside the above Work time or on weekends.

7.05 *"Or Equals"*

SC-7.05 Add the following new paragraph immediately after Paragraph 7.05.E:

F. Requirements for "or equals" shall be submitted prior to bidding. Reference Section 00100 (Advertisement for Bids) and Section 00200, Article 11 (Instructions to Bidders) for submission deadlines of requirements for "or equals".

7.07 *Concerning Subcontractors and Suppliers*

SC-7.07.C Add the following sentences to the end of Paragraph 7.07.C:

1. Bidder shall indicate subcontractors as required on the Bid Form.
- 2.
3. 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;
- b. or with the approval of the City for good cause shown by the Contractor.

SC-7.07.K Delete Paragraph 7.07.K in its entirety and insert the following in its place:

- K. All work performed for Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and Subcontractor. The Subcontractor shall not commence work until the Contractor has obtained all insurance as required by Paragraphs 6.02 through 6.03 inclusive as amended by these Supplementary Conditions.

SC-7.07.N Add the following new paragraph immediately after Paragraph 7.07.M:

- N. Contractor shall not award work valued at more than fifty (50%) percent of the Contract Price to Subcontractor(s). Contractor shall perform at least fifty (50%) percent of the labor with own forces, unless prior written approval is provided by the Owner.

7.08 *Patent Fees and Royalties*

SC-7.08.B In the first line, insert "North Carolina" between "by" and "Laws".

SC-7.08.B Add the following language at the end of Paragraph 7.08.B:

The parties understand and acknowledge that no North Carolina case, statute, or Constitutional provision authorizes a local government to indemnify a Contractor and that this contract provision may be unenforceable.

SC-7.08.C Delete Paragraph 7.08.C in its entirety and insert the following in its place:

- C. Contractor's indemnity, defense and hold harmless obligations to the Indemnified Parties under SC-7.18 shall apply as to any and all Losses, liabilities, damages, expenses and costs caused by, arising out of, resulting from, or in connection with 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 when the Fault of the Contractor or its Derivative Parties is a proximate cause of the Losses, liabilities, damages, expenses and costs so indemnified. Provided, however, nothing herein shall require the Contractor to indemnify the Indemnified Parties against any such Losses, liabilities, damages, expenses and costs arising out of, resulting from, or in connection with any negligent acts of one or more of the Indemnified Parties.

7.09 *Permits*

SC-7.09.A Amend the last sentence of Paragraph 7.09.A to read as follows:

Contractor shall pay all charges of utility owners for connections for providing permanent service to the Work.

SC-7.09.B Add the following new paragraphs after Paragraph 7.09.A:

- B. Owner obtained encroachment agreements and permits are included as part of the Contract Documents. The encroachment agreements and permits are attached as an appendix to the specifications or project manual. This Paragraph does not relieve Contractor of responsibility to comply with applicable Laws and Regulations as stated in Paragraph 7.11.
- C. Contractor shall be responsible for compliance with the terms of the encroachment agreements and permits issued by Federal/State/Local regulatory agencies. Compliance with the terms listed in the encroachment agreements and permits shall be at no additional cost to the Owner. This shall include generating and submitting any reports that may be required as a condition of the encroachment agreements and permits. All costs shall be included in the bid prices of applicable items.

7.10 Taxes

SC-7.10 Add the following new paragraphs after Paragraph 7.10.A:

- B. Procedures for reporting sales tax are included in Section 00805.

7.11 *Laws and Regulations*

SC-7.11.B Delete Paragraph 7.11.B in its entirety and insert the following in its place:

- B. If Contractor observes that the Specifications or Drawings are at variance with any Laws or Regulations, Contractor shall give Engineer prompt written notice thereof. If Contractor performs any Work knowing it to be contrary to such Laws or Regulations, and without such notice to Engineer, Contractor shall bear all costs arising therefrom. Contractor shall, at all times, observe and comply with and shall cause its Derivative Parties to observe and comply with all such existing Laws or Regulations. Further, Contractor's indemnity, defense and hold harmless obligations to the Indemnified Parties under SC-7.18 shall apply as to any and all Losses, liabilities, damages, expenses and costs caused by, arising out of, resulting from, or in connection with any claim, civil penalty, fine or liability arising from or based on the violation of any such Law or Regulations by the Contractor or its Derivative Parties.

SC-7.11 Add the following new paragraphs after Paragraph 7.11.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 of the NC Department of Transportation Encroachment Agreement, if attached to the Contract Documents.
- 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 and engineering 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 bear all costs associated with the cleanup.

7.12 *Record Documents*

SC-7.12 Add the following new paragraph after Paragraph 7.12.A:

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

7.13 *Safety and Protection*

SC-7.13.A Add the following new subparagraph after Paragraph 7.13.A:

1. When tasks (operating valves, lock out – tag out, etc.) must be accomplished by City staff to allow Contractor to perform or continue its Work, Contractor shall independently verify and confirm the performance of the tasks prior to performing the impacted Work.

SC-7.13.D Delete Paragraph 7.13.D its entirety and insert the following in its place:

- D. Contractor shall be responsible for remedying damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 as follows:
 1. To the fullest extent allowed by Laws and Regulations, Contractor shall remedy at its own expense any and all damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 arising out of, or resulting from the sole negligence of the Contractor, the Contractor's agents, the Contractor's employees, 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.
 2. In matters other than those covered by subsection SC-7.18.A, and to the fullest extent allowed by Laws and Regulations, Contractor shall remedy at its own expense any and all damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 arising out of, resulting from, or in connection with the execution of the Work provided for in this Contract when the Fault of the Contractor or its Derivative Parties is a proximate cause of such damage, injury, or loss. For the purposes of this section, the terms "Fault" and "Derivative Parties" shall have the same meaning as that set forth in SC-7.18.E.

7.16 *Submittals*

SC-7.16D.2 In the first sentence, replace "two" with "three".

SC-7.16 Add the following new paragraph immediately after Paragraph 7.16.F:

- G. All materials or equipment delivered to the Site shall be accompanied by certificates, signed by an authorized officer of the supplier, and notarized guaranteeing that the materials or equipment conform to specification requirements. Such certificates shall be immediately turned over to the Engineer. Materials or equipment delivered to the Site without such certificates will be subject to rejection.

7.18 *Indemnification*

SC-7.18 Delete Paragraphs 7.18.A and 7.18.B in their entirety and insert the following in their place:

- A. To the fullest extent allowed by Laws and Regulations, Contractor shall indemnify, defend, and hold harmless the Owner, its officers, officials, employees, agents, or

indemnities (collectively called "Indemnified Parties") from and against those Losses, liabilities, damages, and costs proximately caused by, arising out of, or resulting from the sole negligence of the Contractor, the Contractor's agents, or the Contractor's employees.

- B. In matters other than those covered by subsection 7.18A, above, and to the fullest extent allowed by Laws and Regulations, Contractor shall indemnify, defend, and hold harmless the Indemnified Parties from and against those Losses, liabilities, damages, and costs caused by, arising out of, resulting from, or in connection with the execution of the Work provided for in this Contract when the Fault of the Contractor or its Derivative Parties is a proximate cause of the Loss, liability, damage, or expense indemnified.
- C. Costs and expenses shall include attorneys' fees, litigation or arbitration expenses, or court costs actually incurred by the Indemnified Parties to defend against third-party claims alleged in any court, tribunal, or alternative dispute resolution procedure required of any of the Indemnified Parties by Laws and Regulations or by contract, only if the Fault of the Contractor or its Derivative Parties is a proximate cause of the attorney's fees, litigation or arbitration expenses, or court costs to be indemnified.
- D. The Contractor's duty to indemnify, defend, and hold harmless described hereinabove shall survive the termination or expiration of this Contract.
- E. Definitions:
 - 1. For the purposes of SC-7.18, the term "Fault" shall mean any breach of contract; negligent, reckless, or intentional act or omission constituting a tort under applicable statutes or common law; or violation of applicable statutes or regulations.
 - 2. For the purposes of SC-7.18, the term "Loss" or "Losses" shall include, but not be limited to, fines, penalties, and/or judgments issued or levied by any local, state, or federal governmental entity.
 - 3. For the purposes of SC-7.18, the term "Derivative Parties" shall mean any of the Contractor's Subcontractors, agents, employees, or other persons or entities for which the Contractor may be liable or responsible as a result of any statutory, tort, or contractual duty.

ARTICLE 8 - OTHER WORK AT THE SITE

8.01 *Other Work*

SC-8.01.E Amend the first sentence of Paragraph 8.01.E to read as follows:

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and within seven days 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.

SC-8.01 Add the following new paragraphs immediately after Paragraph 8.01.F.

- G. Prime contracts will be let in connection with the Project as outlined in Specification Section - Summary of Work.
- H. The Owner, Engineer, and Engineer's consultants shall not be liable to Contractor for any claims, costs, losses or damages incurred or sustained by Contractor on or in connection with any other project or anticipated project.

8.02 *Coordination*

SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- C. Owner does not intend to contract with others for the performance of other work at or adjacent to the Site:

8.03 *Legal Relationships*

SC-8.03 Delete Paragraph 8.03.C in its entirety and insert the following in its place:

- C. If Contractor or its Derivative Parties damage(s), delay(s), disrupt(s), or interfere(s) with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's or its Derivative Parties' failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's or its Derivative Parties' action(s), inaction(s), 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 or Owner, then Contractor shall 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 in a court of competent jurisdiction. In addition, the Contractor's indemnity, defense and hold harmless obligations to the Indemnified Parties under SC-7.18 shall apply as to any and all Losses, liabilities, damages, expenses and costs arising out of, resulting from, or in connection with any and all claims brought by any such other contractor or utility owner against one

or more of the Indemnified Parties that arise out of or relate to any such damage, delay, disruption or interference when the Fault of the Contractor or its Derivative Parties is a proximate cause of the Losses, liabilities, damages, expenses and costs so indemnified. Provided, however, nothing herein shall require the Contractor to indemnify the Indemnified Parties against any such claims arising out of, resulting from, or in connection with any negligent acts of one or more of the Indemnified Parties.

ARTICLE 9 - OWNER'S RESPONSIBILITIES

9.11 *Evidence of Financial Arrangements*

SC-9.11 Add the following new paragraph immediately after Paragraph 9.11.A:

- B. On request of Contractor, prior to the execution of any Change Order involving a significant increase in the Contract Price, Owner shall furnish to Contractor reasonable evidence that adequate financial arrangements have been made by Owner to enable Owner to fulfill the increased financial obligations to be undertaken by Owner as a result of such Change Order.

ARTICLE 10 - ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

SC-10.01.A Delete Paragraph 10.01.A in its entirety and replace with the following:

- A. Engineer will be Owner's representative during the construction period and Engineer's instructions shall be followed promptly and efficiently.

10.03 *Resident Project Representative*

SC-10.03.A Add the following new subparagraphs immediately following Paragraph 10.03.A:

1. The Resident Project Representative (RPR) will serve as the Engineer's liaison with the Contractor, working principally through the Contractor's superintendent to assist the Contractor in understanding the intent of the Contract Documents.
2. The RPR shall conduct on-site observations of the Work in progress to confirm that the Work is proceeding in accordance with the Contract Documents. They will verify that tests, equipment and systems start-ups and operating and maintenance instructions are conducted as required by the Contract Documents. They will have the authority to disapprove or reject defective Work in accordance with Article 14.
3. The RPR will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:

- a. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
- b. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
- c. *Liaison*
 - i) Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - ii) Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - iii) Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
- d. *Review of Work; Defective Work*
 - i) Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
 - ii) Observe whether any Work in place appears to be defective.
 - iii) Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
- e. *Inspections and Tests*
 - i) Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
 - ii) Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
- f. *Payment Requests:* Review Applications for Payment with Contractor.
- g. *Completion*
 - i) Participate in Engineer's visits regarding Substantial Completion.

- ii) Assist in the preparation of a punch list of items to be completed or corrected.
 - iii) Participate in Engineer's visits to the Site in the company of Owner and Contractor regarding completion of the Work and assist in preparation of a final punch list of items to be completed or corrected by Contractor.
 - iv) Observe whether items on the final punch list have been completed or corrected.
- 4. Except upon written instructions of the Engineer, the RPR or Owner's field staff shall not have authority to:
 - a. Authorize any deviation from the Contract Documents or approve any substitute materials or equipment (including "or-equal" items).
 - b. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
 - c. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 - d. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
 - e. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
 - f. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
 - g. Authorize Owner to occupy the Project in whole or in part.
 - h. 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.
 - i. Be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
 - j. 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.

5. Any decision made by RPR or Owner's field staff 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 RPR or Owner's field staff, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by RPR or Owner's field staff to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
6. RPR's or Owner's field staff's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with, the Contract Documents.

SC-10.03.B Add the following new subparagraph immediately following Paragraph 10.03.B:

1. When the Owner assigns City field staff to monitor the project, such staff's limitations shall be as described in SC-10.03.A.4, SC-10.03.A.5 and SC-10.03.A.6.

ARTICLE 11 - CHANGES TO THE CONTRACT

11.07 *Change of Contract Price*

SC-11.07.B.2 Delete this subparagraph in its entirety and replace with the following:

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

11.08 *Change of Contract Times*

SC-11.08 Add the following paragraph after Paragraph 11.08.B:

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

ARTICLE 12 - CLAIMS

No Supplementary Conditions in this Article.

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

13.01 *Cost of the Work*

SC-13.01.B.1 Delete Paragraph 13.01.B.1 in its entirety and replace with the following:

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, vacation and holiday pay applicable thereto. Labor will be based on direct labor cost, Contractor to provide certified payroll upon request. No claims for extra cost shall be considered based on an escalation of labor costs throughout the period of the Contract.

SC-13.01.B.2 Add the following language at the end of the Paragraph:

No claims for extra cost shall be considered based on an escalation of material costs throughout the period of the Contract.

SC-13.01.B.3 Delete the second sentence "If required...be acceptable."

SC-13.01.B.4 Delete in its entirety.

SC-13.01.B.5.a Delete Paragraph in its entirety.

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. Full rental cost for rented, leased, and/or owned equipment shall not exceed rates listed in the current version of Rental Rate Blue Book for Construction Equipment (Blue Book). If rental rates for the equipment being used for the Work are not listed in the Blue Book, the Contractor will receive the prevailing rental rates being paid for such equipment in the area where the Project is located. Computed durations will be based upon the Work completed. 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. The Engineer/Owner reserves the right to request four rental quotes as backup.

3. The hours of operation shall be based upon actual equipment usage to the nearest full hour, as recorded by the Engineer.

<u>Usage</u>	<u>Blue Book Payment Category</u>
Less than 8 hours	Hourly Rate
8 or more hours but less than 4 days	Daily Rate
4 or more days but less than 16 days	Weekly Rate
16 or more days	Monthly Rate

SC-13.01.B.5.d Add the following language at the end of the Paragraph:

However, reimbursable sales and use taxes paid to the State of North Carolina or to local governments in North Carolina shall be included or excluded from the Cost of the Work as described in Section 00805.

SC-13.01.B.5.f Delete Paragraph in its entirety.

SC-13.01.B.5.g Delete Paragraph in its entirety.

SC-13.01.B.5.h Delete Paragraph in its entirety.

SC-13.01.C.1 Add the following language at the end of the Paragraph.

Project Management will not be included in the Cost of the Work.

13.03 *Unit Price Work*

SC-13.03.E.1.a Delete Paragraph 13.03.E.1.a in its entirety and insert the following in its place:

- a. The extended Bid price of a particular item of Unit Price Work (excluding rock excavation and undercut) amounts to five (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 twenty-five (25) percent from the estimated quantity of such item indicated in the Agreement at the time of Contract formation; and

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

14.02 *Tests, Inspections, and Approvals*

SC-14.02.B Delete Paragraph 14.02.B in its entirety and insert the following in its place:

- B. Owner shall employ and pay for inspections and testing services specifically noted as such in the Contract. All others required shall be the responsibility of the Contractor.

SC-14.02.C Delete Paragraph 14.02.C in its entirety and insert the following in its place:

- C. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be specifically inspected, tested, or approved by some public body, Contractor shall assume full responsibility therefore, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection, testing or approval.

SC-14.02.G Add the following paragraph(s) immediately following Paragraph 14.02.F:

- G. Owner reserves the right to independently perform at its own expense, laboratory tests on random samples of material or performance tests on equipment delivered to the Site. These tests if made will be conducted in accordance with the appropriate referenced standards or Specification requirements. The entire shipment represented by a given sample, samples or piece of equipment may be rejected on the basis of the failure of samples or pieces of equipment to meet specified test requirements. All rejected materials or equipment shall be removed from the Site, whether stored or installed in the Work, and the required replacement shall be made, all at no additional cost to the Owner.

14.03 *Defective Work*

SC-14.03.G Add a new paragraph after Paragraph 14.03.F:

- G. At any time during the progress of the Work and up to the date of final acceptance, the Engineer shall have the right to reject any Work which does not conform to the requirements of the Contract Documents, even though such Work has been previously inspected and paid for. Any omissions or failure on the part of the Engineer to disapprove or reject any Work or materials at the time of inspection shall not be construed as an acceptance of any defective Work or materials.

14.06 *Owner May Stop the Work*

SC-14.06.A Add the following language to the first sentence of Paragraph 14.06.A after:

".....will conform to the Contract Documents," add "or if the Work interferes with the operation of the existing facility", and then continue "then Owner may order..."

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

15.01 *Progress Payments*

SC-15.01.A Add the following paragraph immediately following Paragraph 15.01.A:

1. The Contractor shall submit for the Engineer's approval, a complete breakdown of all Lump Sum Items in the Bid. This breakdown, modified as directed by the Engineer, will be used as a basis for preparing estimates and establishing progress payments.

SC-15.01.B.4 Delete Subparagraph 15.01.B.4 in its entirety and replace with the following:

4. Progress payment request shall include the percentage of the total amount of the Contract which has been completed from the start-up of the Project to and including the last day of the preceding month, or other mutually agreed upon day of the month accompanied by such data and supporting evidence as Owner or Engineer may require.

SC-15.01.B. Add the following new subparagraphs after Subparagraph 15.01.B.4:

5. Forms shall be prepared by the Contractor and submitted to the Engineer for approval. Forms to be used are included in Section 00620 and will be supplied by the Engineer.
6. At the option of the Owner, partial payment up to the estimated value, less retainage, may be allowed for any materials and equipment not incorporated in the Work, pursuant to the following conditions:
 - a. Major equipment items stored off site shall be stored in a bonded warehouse and properly maintained during storage.
 - b. Equipment or materials stored on the Site shall be properly stored, protected and maintained.
 - c. For any partial payment the Contractor shall submit, with the monthly progress payment from each material or equipment manufacturer, bills or invoices indicating actual material cost.
 - d. Contractor shall submit evidence that payment has been made for materials or equipment stored and for which the Engineer has authorized partial payment and previous progress payments, prior to submission of the next monthly payment request.
7. The Owner will retain five percent (5%) of the amount of each such estimate until Work covered by the Contract is 50% complete. When 50% of the Work of the original Contract has been completed and in the opinion of the Owner the Contractor continues to perform satisfactorily and nonconforming Work identified in writing prior to that time by the Engineer or Owner has been corrected by the Contractor and accepted by the Owner, the Owner with written consent of surety will adjust future partial payments so that two and one-half percent (2-1/2%) of the original Contract Price is retained.
8. The Project shall be deemed 50% complete when the Contractor's gross project invoices, excluding the value of materials stored off-site, equals or exceeds 50% of the original value of the Contract, except the value of materials stored on-site shall not exceed 20% of the Contractor's gross invoices for the purpose of determining whether the project is 50% complete.
9. If the Owner determines it is appropriate to reduce retainage, the method used for such adjustment shall be to fix retainage at two and one-half percent (2-1/2%) of the original Contract amount (when the Work is 50% complete) and

to pay all subsequent Partial Payment Requests to the full approved amount. The intent of such an adjustment is to gradually reduce retainage to two and one-half percent (2-1/2%) of the original Contract amount when the Work is 100% complete. Following 50% completion of the Project, the Owner may also withhold additional retainage from any subsequent periodic payment, not to exceed five percent (5%), in order to allow the Owner to retain two and one-half percent (2-1/2%) total retainage through the completion of the Project.

10. If the Owner determines the Contractor's performance is unsatisfactory, the Owner may reinstate retainage for each subsequent periodic payment application up to a maximum amount of five (5) percent of the original Contract amount.
11. Within 60 days after the submission of a final pay application, the Owner with written consent of the surety shall release to the Contractor all retainage on payments held by the Owner if (1) the Owner receives a certificate of substantial completion from the Engineer, or (2) the Owner receives beneficial occupancy or use of the Project. However, the Owner may retain sufficient funds to secure completion of the Project or corrections on any Work. If the Owner retains funds, the amount retained shall not be more than 2.5 times the Engineer's estimated value of the Work to be completed or corrected. Any reduction in the amount of the retainage on payments shall be with the written consent of the Contractor's surety.
12. Retainer provisions contained in Contractor's subcontracts may not exceed the terms and conditions for retainage provided herein. Contractor is further required to satisfy the retainage provisions of N.C.G.S. 143-134.1(b2) with regard to subcontracts for early finishing trades (structural steel, piling, caisson, and demolition) and to coordinate the release of retainage for such trades from the retainage held by the Owner from the Contractor pursuant to statute.
13. Nothing shall prevent the Owner from withholding payment to the Contractor in addition to the amounts identified herein for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the Owner or reasonable evidence that a third-party claim will be filed.

SC-15.01.C.6 Add the following new subparagraphs after Subparagraph 15.01.C.6.e:

- f. Sedimentation and erosion control are determined to be unsatisfactory or unacceptable. A deduction of up to 10% of the payment amount for bid items that include sedimentation and erosion control installed during the payment period may be withheld in order to ensure remediation of the unsatisfactory or unacceptable work. Upon remediation, Contractor may receive payment for the deduction in subsequent Application for Payment.
- g. Seeding and mulching are determined to be unsatisfactory or unacceptable. A deduction of up to 20% of the payment amount for bid items that include seeding and mulching installed during the payment period may be withheld in order to ensure remediation of the unsatisfactory or unacceptable work. Upon remediation,

Contractor may receive payment for the deduction in subsequent Application for Payment.

- h. Record Documents are not maintained satisfactorily and in accordance with the Contract Documents. Payment requests shall not be approved until the deficiencies are satisfactorily corrected.

SC-15.01.D.1 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

- 1. Upon receipt from Engineer of an Application for Payment bearing Engineer's recommendation of payment, Owner shall set off against the amount recommended by Engineer any sums to which Owner is entitled pursuant to Sec. 15.01.E of the General Conditions and shall then approve the Application for Payment. Owner shall tender the resulting balance due to Contractor within thirty (30) days of Owner's approval of the Application for Payment

15.03 *Substantial Completion*

SC-15.03 Add the following new subparagraph 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, will 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 this Article 15.

15.06 *Final Payment*

SC-15.06.E Delete Paragraph 15.06.E in its entirety and insert the following in its place:

Final Payment Becomes Due: Upon receipt from Engineer of the final Application for Payment bearing Engineer's recommendation of payment, Engineer's notice of acceptability, and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled pursuant to Sec. 15.01.E of the General Conditions, and shall then approve the final Application for Payment. Owner shall tender the resulting balance due to Contractor within thirty (30) days of Owner's approval of the final Application for Payment.

ARTICLE 16 - SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

SC-16.01 Add the following new paragraph immediately after Paragraph 16.01A:

- B. Should the Owner suspend Work due to unsafe Work conducted by the Contractor, the Contractor shall not be allowed any adjustment in Contract Price or extension of Contract Time attributed to this delay.

16.02 *Owner May Terminate for Cause*

SC-16.02.A.3 Add the following after "jurisdiction":

“(including those governing employee safety)”

SC-16.04.A Amend the first sentence of paragraph 16.04.A as follows:

Strike out the phrase “Owner fails for 30 days” and replace with “Owner fails for 45 days after Approval by Owner”.

SC-16.04.B Amend the first sentence of paragraph 16.04.B as follows:

Strike out the phrase “Owner has failed for 30 days” and replace with “Owner has failed for 45 days after Approval by Owner”.

ARTICLE 17 - FINAL RESOLUTION OF DISPUTES

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

- B. Either Owner or Contractor may request mediation of any claim submitted to Engineer for a decision under Article 12 - Claims before such decision becomes final and binding.

SC-17.01 Add the following new paragraphs after SC-17.01.B:

- C. In accordance with GS 143-128(f), any claim, dispute or other matter in question (involving greater than \$15,000) arising out of or related to this Agreement shall be subject to mediation as a condition precedent to the institution of legal or equitable proceeding by either party. The dispute resolution process adopted by the N.C. State Building Commission shall be followed. The process entitled “Rules Implementing Mediated Settlement Conferences in North Carolina Construction Projects” are included in Section 00810.
- D. All matters relating to this Contract shall be governed by the laws of the State of North Carolina, without regard to its choice of law provisions, and venue for any action relating to this Contract shall be Wake County Civil Superior Court or the United States District Court for the Eastern District of North Carolina, Western Division.

ARTICLE 18 - MISCELLANEOUS

18.01 *Giving Notice*

SC-18.01.A.3 Delete in its entirety and replace with the following:

3. by e-mail to the recipient, with the words "Formal Notice" in the e-mail's subject line.

SC-18.01 Add the following new paragraph after Paragraph 18.01.A:

- B. No oral statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract. Any notice by a party to this Contract to another party or parties to this Contract relative to any part of this Contract shall be in writing.

18.07 *Controlling Law*

SC-18.07.A Delete in its entirety and replace with the following:

- A. All matters relating to this Contract shall be governed by the laws of the State of North Carolina, without regard to its choice of law provisions, and venue for any action relating to this Contract shall be Wake County Civil Superior Court or the United States District Court for the Eastern District of North Carolina, Western Division.

END OF SECTION

**PROCEDURE FOR REPORTING NORTH CAROLINA SALES TAX
EXPENDITURES ON CITY OF RALEIGH CONTRACTS**
(for projects with reimbursable sales tax excluded from Bid)

1. The following procedure in handling the North Carolina Sales Tax is applicable to this project. Contractors shall comply fully with the requirements outlined hereinafter, in order that the owner may recover the amount of the tax permitted under the law. For the purposes of this section, "Sales Taxes" shall mean sales and use taxes paid to the State of North Carolina or to local governments in North Carolina.
 - (a) Reimbursable Sales Taxes are to be excluded from the bid price for this project.
 - (b) The City is entitled to refunds from the State of North Carolina for these reimbursable sales taxes. The Contractor that performs work under this contract is allowed to obtain a reimbursement from the City for those Sales Taxes for which the State will grant a refund to the City. The City will reimburse the Contractor, and the City later obtains a refund from the State.
 - (c) It shall be the general contractor's responsibility to furnish the City documentary evidence showing the materials used and sales tax paid by the general contractor and each of his subcontractors. Any county sales tax included in the contractor's statements must be shown separately from the state sales tax. If more than one county is shown, each county shall be listed separately.
 - (d) The documentary evidence shall be the attached Reimbursable Sales and Use Tax Statement. This evidence shall consist of a certified statement, by the general contractor and each of his subcontractors individually, showing total purchases of materials from each separate vendor and total sales taxes by each county paid each vendor. The certified statement must show the invoice number (s) covered and inclusive dates of such invoices. State sales tax shall be listed separately from county sales tax. If more than one county is shown, each county shall be listed separately. The invoices shall be provided to substantiate the information on the statement.
 - (e) Materials used from general contractor's or subcontractor's warehouse stock shall be shown in a certified statement at warehouse stock prices.
 - (f) The general contractor shall not be required to certify the subcontractor's statements. However, the subcontractor may submit for reimbursement by certifying a Reimbursable Sales and Use Tax Statement, submitting it to the general contractor for the general contractor to submit with the pay application for the properties listed on that form. The City will make the reimbursement payable to the Contractor.
 - (g) The documentary evidence to be furnished to owners eligible for Reimbursable Sales Tax refunds covers sales and/or use taxes paid on building materials used by general contractors and subcontractors in the performance of contracts with churches,

orphanages, hospitals not for profit, educational institutions not operated for profit and other charitable or religious institutions or organizations not operated for profit and incorporated cities, towns and counties in this State. The documentary evidence is to be submitted to the above-named institutions, organizations and governmental units to be included in claims for refunds to be prepared and submitted by them to obtain refunds provided by G.S. 105-164.14 and is to include the purchase of building materials, supplies, fixtures and equipment which become a part of or annexed to buildings or structures being erected, altered or repaired under contracts with such institutions, organizations or governmental units.

- (h) The Contractor may seek reimbursement separately from, but at the same time as, the application for payment is made for the properties that were taxed. The Contractor shall not file for reimbursement for Sales Taxes before the Contractor has the right to file an application for payment for the properties that were taxed.
- 2. If the State refuses to refund any such Sales Tax to the City, or if after a refund is made, the City is told to return a refund to the State, the Contractor shall upon demand repay the City for the amount of the failed refunds.
- 3. The contractor or contractors to whom an award is made on this project will be required to follow the procedure outlined above.
- 4. The contractor is advised that all requests for payment, partial or final, for work completed under this contract must include a sales tax report submitted in accordance with the procedures outlined above.

North Carolina Reimbursable Sales and Use Tax Statement

(Paid During This Estimate Period)

Project _____ Project Location _____ County _____ Estimate No. _____

Name of Contractor _____ Period Ending _____

Date	Vendor	Type of Property Purchased	Invoice Number	Invoice Amount	State Tax 4.75%	County Tax 2.00%	Total Tax 6.75%	County
TOTALS								

The undersigned individual certifies (1) that he or she is an employee or principal of the Contractor that is filing this form with the City to request reimbursement for N.C. State and local sales and use taxes that the Contractor has paid, (2) that the above listed vendors were paid sales tax upon purchases 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,(3) that no tax on purchases or rentals of tools and/or equipment is included in the above list, (4) that all of the material above became a part of or is annexed to the building or structure being erected, altered or repaired, and (5) that all of the information on this form, and any additional pages added to this page, if any, is true and accurate.

_____ County, North Carolina

Signed and sworn to (or affirmed) before this day by _____
(name of principal) (signature of principal)

Date: _____
Notary Public's Signature

(Notary's printed or typed name, Notary Public)

(Official Seal) My commission expires: _____

North Carolina Reimbursable Sales and Use Tax Statement by Subcontractor

(Paid During This Estimate Period)

Project _____ Project Location _____ County _____ Estimate No. _____

Name of Subcontractor _____ Period Ending _____

Date	Vendor	Type of Property Purchased	Invoice Number	Invoice Amount	State Tax 5.50%	County Tax 2.25%	Total Tax 7.75%	County
TOTALS								

The undersigned individual certifies (1) that he or she is an employee or principal of the Subcontractor that is submitting this form with the Contractor so that the Contractor may request reimbursement for N.C. State and local sales and use taxes that the Subcontractor has paid, (2) that the above listed vendors were paid sales tax upon purchases 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,(3) that no tax on purchases or rentals of tools and/or equipment is included in the above list, (4) that all of the material above became a part of or is annexed to the building or structure being erected, altered or repaired, and (5) that all of the information on this form, and any additional pages added to this page, if any, is true and accurate.

_____ County, North Carolina

Signed and sworn to (or affirmed) before this day by _____
(name of principal)

(signature of principal)

Date: _____

Notary Public's Signature

(Notary's printed or typed name, Notary Public)

(Official Seal)

My commission expires: _____

RULES IMPLEMENTING MEDIATED
SETTLEMENT CONFERENCES IN
NORTH CAROLINA PUBLIC CONSTRUCTION PROJECTS

Adopted
February 26, 2002

Table of Rules

Rule

1. Initiating Mediated Settlement Conferences
 - A. Purpose of Mandatory Settlement Conferences.
 - B. Initiating the Dispute Resolution Process.
2. Selection of Mediator
 - A. Selection of Certified Mediator by Agreement of the Parties.
 - B. Nomination and Court Approval of a Non-Certified Mediator.
 - C. Appointment of Mediator by the SCO.
 - D. Mediator Information Directory.
 - E. Disqualification of Mediator.
3. The Mediated Settlement Conference
 - A. Where Conference is to be Held.
 - B. When Conference is to be Held.
 - C. Request to Extend Deadline for Completion.
 - D. Recesses.
 - E. The Mediated Settlement Conference shall not be cause for the Delay of the Construction Project which is the focus of the Dispute.
4. Duties of Parties and Other Participants in Formal Dispute Resolution Process
 - A. Attendance.
 - B. Finalizing Agreement.
 - C. The Mediation Fee shall be paid in accordance with G.S. 143-128(g).
 - D. Failure to Compensate Mediator.
5. Authority and Duties of Mediators
 - A. Authority of Mediator.
 - B. Duties of Mediator.
6. Compensation of the Mediator
 - A. By Agreement.
 - B. By Appointment.
7. Mediator Certification
8. Rule Making
9. Definitions
10. Time Limits

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

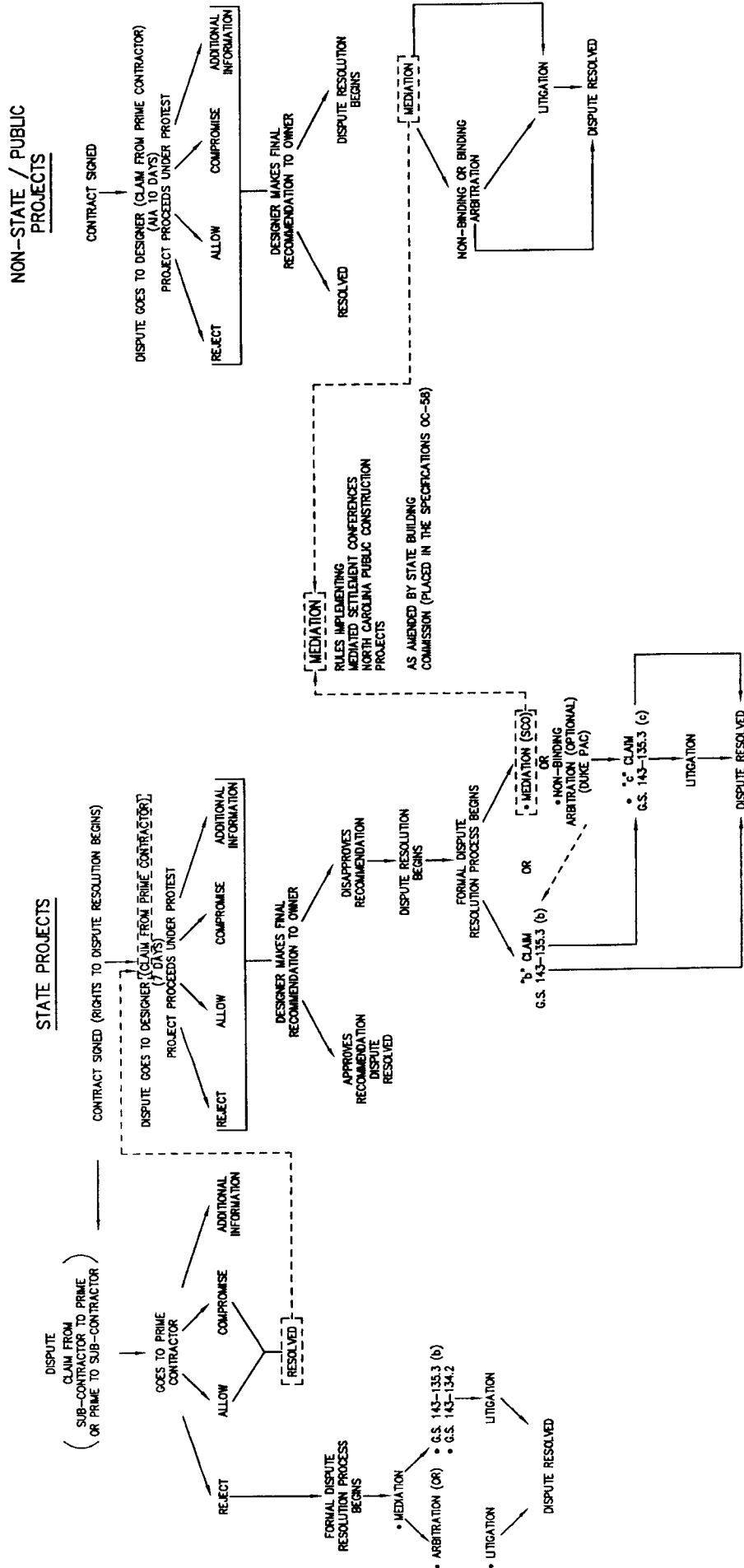
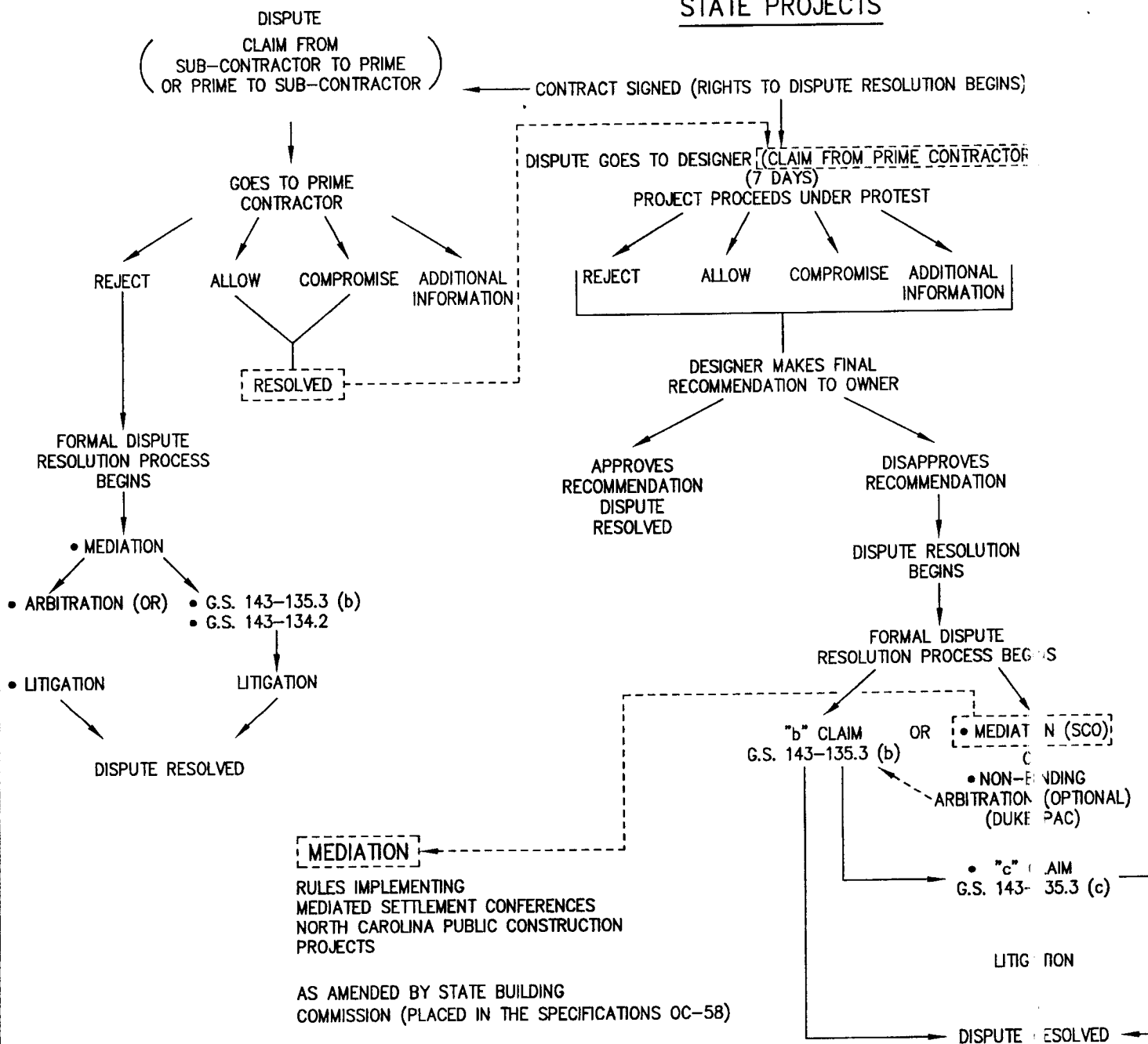


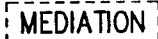
Exhibit A

DISPUTE RESOLUTION

STATE PROJECTS



DISPUTE RESOLUTION



RULES IMPLEMENTING MEDIATED SETTLEMENT CONFERENCES NORTH CAROLINA PUBLIC CONSTRUCTION PROJECTS

AS AMENDED BY STATE BUILDING
COMMISSION (PLACED IN THE SPECIFICATIONS OC-58)

MEDIATION

NON-BINDING OR BINDING
☐ ARBITRATION

LITIGATION

- DISPUTE RESOLUTION:

WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]

Owner: City of Raleigh

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Work Change Directive:

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

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

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

Contract Price: \$ _____ [increase] [decrease] [not yet estimated].

Contract Time: _____ days [increase] [decrease] [not yet estimated].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Engineer

Authorized by Owner

By:

Title:

Date:

CHANGE ORDER NO.: [Number of Change Order]

Owner: City of Raleigh

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Change Order:

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

Description:

[Description of the change]

Attachments:

[List documents related to the change]

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

Recommended by Engineer (if required)

Accepted by Contractor

By: _____

Title: _____

Date: _____

Authorized by Owner

Approved by Funding Agency (if applicable)

By: _____

Title: _____

Date: _____

Attachment 1 - Final Change Order:

The Owner and Contractor intend that this Final Change Order incorporate and resolve all prior, pending, and unresolved change order requests, claims, and/or disputes which have been submitted or which could have been submitted prior to the date of execution of this Final Change Order. This Final Change Order represents full and final settlement of all disputes or claims between the Parties to the Contract, and by executing this Final Change Order and in consideration of the modifications agreed to herein, Contractor expressly releases and waives all further claims for equitable adjustment; compensation in the form of money or time (days) for additional work, services, labor, or materials; damages for delay including but not limited to claims for additional overhead, lost productivity, ripple effect, cumulative impact, or acceleration; and any direct, indirect, or impacts costs including but not limited to any costs, losses, damages, charges, fees, expenses, interest, or attorneys' fees arising from or in connection with the Contract or this Final Change Order.

FIELD ORDER NO.: [Number of Field Order]

Owner: City of Raleigh

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Field Order:

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s):

Drawing(s) / Details (s):

Description:

[Description of the change to the Work]

Attachments:

[List documents supporting change]

Issued by Engineer

By: _____

Title: _____

Date: _____

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.1 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 Lake Johnson Principal Spillway Repairs
- B. The following references shall apply to work performed for this project. It is the Contractor's responsibility to obtain copies of all documents referenced:
 - 1. The City of Raleigh Guidelines for Land Disturbing Activities, current edition.
 - 2. The City of Raleigh Unified Development Ordinance, current edition, including adopted text changes.
 - 3. The City of Raleigh Stormwater Design Manual, current edition.
 - 4. The City of Raleigh Public Utilities Handbook (Handbook), as it relates to this project, shall be used in conjunction with these specifications. All aspects of the project construction shall conform to the Handbook unless specifically addressed herein.
 - 5. The City of Raleigh Standard Detail Drawings.
- C. In the event of a discrepancy between these Specifications and the references listed above, the Contractor shall use the more stringent. Notify the Owner immediately of the discrepancy.

1.2 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 01 35 13 Specific Project Requirements

1.3 CONTRACT DESCRIPTION

- A. The description of work, which follows, is not all inclusive in listing the work. The description is abbreviated to provide a summary of the scope of the project to aid in the understanding and coordination. The Contractor shall refer to the applicable sections of these specifications for a detailed description of the work involved and also refer to the Drawings for the division of work indicated thereon.
 - 1. Lake Johnson Principal Spillway Repair/Contract No. XXX
 - a. Provision of all labor, tools, materials, equipment, supervision, services required and reasonably implied by the City of Raleigh Standard Detail Drawings and the Contract Documents to complete repairs to the principal spillway and selected areas along the upstream concrete apron. These repairs are in response to inspections finding numerous cracks in concrete and joints in need of repair. The quantities shown below are provided as the basis of bid.

1	MOBILIZATION	LS	1
2	CONSTRUCTION ENTRANCE	LS	1
3	LAYDOWN AREA/TEMPORARY FACILITIES	LS	1
4	DEMOLITION	LS	1
5	VEGETATION REMOVAL	LS	1
6	OGEE CENTRAL VERTICAL MONOLITH JOINT REPAIR (SEE DETAIL 01)	LF	30
7	OGEE/TRAINING WALL ABUTMENT JOINT REPAIR (SEE DETAIL 2)	LF	40
8	OGEE/SPILLWAY HORIZONTAL CHUTE SLAB ABUTMENT JOINT REPAIR (SEE DETAIL 03)	LF	50
9	UPSTREAM APRON CRACK REPAIR (SEE DETAIL 04)	LF	286
10	UPSTREAM APRON JOINT REPAIR (SEE DETAIL 05)	LF	667
11	UPSTREAM APRON CONCRETE REPAIR (SEE DETAIL 06)	CY	0.04
12	LOWER SPILLWAY CHUTE SLAB VERTICAL JOINT REPAIR (SEE DETAIL 07)	LF	160
13	TRAINING WALL/SLAB JOINT REPAIR (SEE DETAIL 08)	LF	100
14	REMOVE, STORE, AND RESET CHAIN LINK FENCE	LF	20

1.4 WORK SEQUENCE

- A. Construction activities that interfere with normal operation of existing facilities shall be specifically noted on construction schedule.
- B. Contractor shall not allow bypassing of sewage into surface water (e.g. stream, creek, river, ditch, etc.). Contractor is responsible for all bypass pumping required to construct the project as shown. For each of these activities provide a detailed construction sequence showing the bypass pumping arrangement.
- C. Contractor shall sequence work to manage active baseflows in streams, ditches, drainage systems, culverts, etc. such that all work is performed in the dry.
- D. For water and sewer mains and service laterals, indicate switchovers and cut-ins between new Work and existing facility on the construction schedule. Submit proposed date for switchover in writing to Engineer and Owner a minimum of seven (7) days and again 24-hours in advance of actual field work. Owner shall have the right to delay Work due to operational requirements, without additional cost to Owner.
- E. For water and sewer mains and service laterals, perform switchovers and cut-ins during low flow periods at the facility. This shall normally require night / weekend operations by Contractor at no additional compensation.
- F. The sequence of construction shall be in accordance with instructions included on the Drawings.

1.5 OWNER OCCUPANCY

- A. Owner, Owner's Representative, and/or general public will occupy site during entire period of construction.
- B. Contractors shall cooperate with Owner, owner's representative, and general public to minimize conflict, and to facilitate operations.

1.6 VIDEO AND PHOTOGRAPHIC INSPECTIONS

- A. Conduct video and photographic inspection of the pre-construction conditions for the entire project area, including off-site material staging areas and other associated locations.

- B. Obtain videos and photographs documenting areas/phases that have achieved milestones, substantial completion, and final completion.
- C. Photographs shall be taken with a minimum of a 12-megapixel digital camera producing high clarity photographs with proper lighting and exposure.
- D. Video footage shall be high definition (HD) with a minimum resolution of 1080p producing high clarity videos with proper lighting and exposure.
- E. Submittal shall be in accordance with Section 01 33 00, Submittal Procedures.

1.7 CONTRACTOR USE OF SITE

- A. Work may be located within Rights-of-Way of the City, NC Department of Transportation, or railroads. Requirements of the owners of the rights-of-way must be complied with and specifically as required in the permits included in the Contract Documents.
- B. Work on private property shall remain within permanent or temporary easements, as shown on the Drawings. Contractor shall comply with all legal and negotiated terms associated with easements across private property.
- C. Contractor shall provide their own staging area as necessary for the Work. Contractor is required to modify the appropriate permits or obtain new permit for additional area at the Contractor's expense. Contractor shall provide documentation of updated or new permits to the Owner prior to using proposed staging areas.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 22 00
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. Items with "(Mat'l)" in the title represent the material as indicated on the Bid Form. Industry standard abbreviations apply, however, the following partial list of abbreviations indicate a specific material:
 - 1. RC – Reinforced Concrete
 - 2. HDPE – High Density Polyethylene
 - 3. CP – Corrugated Plastic
 - 4. CM – Corrugated Metal
 - 5. DI – Ductile Iron
 - 6. PVC – Polyvinyl Chloride
- B. Method of measurement for the individual Bid Items shall be as specified below. Items being measured will be verified by the Owner and/or the Engineer. Only quantities approved by the Engineer shall be shown on the Contractor's application for payment.
- C. Unless specifically incorporated, measurement and payment provisions for any document other than the Specifications do not apply to this Project.
- D. 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.
- E. Work for each bid item shall include, but is not limited to, the Work listed in each item below; the labor, tools, materials, equipment, supervision, services required and reasonably implied by the City of Raleigh Standard Detail Drawings and the Contract Documents; and all else incidental to the bid item for which separate payment is not provided under other bid items for a complete installation.
- F. Listed depths are measured from finished grade surface to the bottom of the pipe or structure. Listed structure length, width, and diameters represent inside dimensions.

- G. The unit price for all Work requiring subsurface excavation operations shall include:
1. Location, protection, and support of all known and unknown utilities.
 2. Dewatering and drainage as required for work in the dry and in compliance with these Specifications.
 3. Trench or embankment shoring as required.
- H. The Contractor's unit cost for any item including "backfill" or "backfilling" shall include cost of importing suitable/satisfactory material for all backfill, including but not limited to costs associated with locating and obtaining permits for a borrow site and purchase, loading, hauling, unloading, onsite transporting, placing, and compacting of backfill material as required in the Contract Documents.
- I. Unless directed otherwise with regard to handling of excavated material, the unit price for items which include excavation (including within trenches) shall assume that excavated material is unsuitable/unsatisfactory for use on the Project. The unit price for the item shall include offsite disposal of excavated material and providing suitable backfill material from offsite borrow source.
- J. At no additional cost to the Owner, the Contractor shall have the option to reuse onsite excavated material with written approval of the Owner/Engineer. It shall be Contractor's responsibility to provide any and all testing deemed necessary by the Owner to demonstrate that onsite material meets the requirements of the Contract Documents. The Owner reserves the right to decline reuse of any material and to negotiate a credit based on reduced cost to the Contractor for reuse of onsite material.
- K. Items including excavation shall cover excavation of any material other than rock. Rock excavation will be paid under a separate item as specified in this Section.
- L. For items being installed below finished grade, the unit price shall include offsite disposal of any surplus soil material resulting from the installation of the item.
- M. All disposal called for in the Specifications shall be offsite disposal.
- N. Temporary removal and restoration, relocation, and/or temporary support of existing mail boxes, signs, fences, shrubs, plants, and guard rails shall be considered incidental to the Work and shall not be measured or paid for separately.
- O. The Contractor shall "provide" (as defined in the EJCDC Section C-700, Article 1, Paragraph 1.02) each item described in this section unless otherwise designated as "furnish" or "install".
- P. Payment for Work performed by the Contractor is subject to acceptance of the Work by the Engineer and the Owner.
- Q. The Contractor shall notify the Owner of any anticipated deviation from the Contract quantities within 3 days of identifying the potential deviation to provide the adequate time for Owner consideration for how to address the deviation.
- R. The Contractor shall notify the Owner at least 7 days in advance of an anticipated quantity overage. No Work shall be performed in excess of the Contract quantities without written Owner approval. Work performed in excess of Contract quantities without written Owner approval shall not be paid.

- S. Construction staking shall be included in the unit costs provided for each item. There shall be no separate measurement and payment for construction staking.
- T. Project compliance with NC General NPDES Permit No. NCG010000 (Stormwater Discharge Permit for Construction Activities) shall be the responsibility of the Contractor. There shall be no separate measurement and payment for NPDES permit compliance.
- U. Water distribution system: All Work shall comply with the City of Raleigh Public Utilities Department Specifications and City of Raleigh Public Utilities Handbook. Work shall include testing and disinfection.
- ~~V.~~ Sanitary sewer system: All Work shall comply with the City of Raleigh Public Utilities Department Specifications and City of Raleigh Public Utilities Handbook. Work shall include testing. Cleanouts shall be provided in accordance with NC Building Code.
- W. Payment: The first Application for Payment will be approved based on the improvements installed during the agreed upon payment period without testing. Subsequent Application for Payments shall not be approved by the Engineer unless improvements installed during the previous payment period have passed the specified tests and clean up is complete.

PART 2 PAY ITEMS

2.01 MOBILIZATION (MAX 5% OF SUBTOTAL)

- A. Measurement shall not be made for this item.
- B. Work: The price for this item shall include, but is not limited to: administrative costs, mobilization, bonds, insurance, video inspections, shop drawing submittal, and construction trailers. Items required by Section 01 50 00, Temporary Facilities and Controls, and not paid for under a separate item, shall be included in this item. This item shall include mobilization of construction equipment onto the project site prior to commencing construction. General office administration for the Project construction shall be included in the individual unit price items.
- C. Bid Price for Mobilization shall not exceed 5 percent of the total bid. Half of the mobilization may be requested on the first pay request and the remainder on the second.

2.02 CONSTRUCTION ENTRANCE

- A. Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include installation (and removal upon job completion) of a temporary construction entrance as shown on the Drawings. This item will be paid in partial payments as follows:
 - 50% of the LS price after initial installation.
 - 50% of the LS price after removal.

2.03 LAYDOWN AREA/TEMPORARY FACILITIES

- A. Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include installation (and removal upon job completion) of a laydown area and temporary facilities for contractor's purposes that

facilitate accomplishing the work. This item includes provision for portable sanitary sewer receptacle, area to store building materials and tools, parking vehicles, trailers, etc. The area provided for this item is shown on the Drawings. This item will be paid in partial payments as follows:

50% of the LS price after initial installation.

50% of the LS price after removal.

2.04 DEMOLITION AND FENCE REMOVAL (AS APPROVED BY ENGINEER)

- A. Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include demolition, removal, and disposal as shown on the Drawings, including but not limited to: removal and proper disposal of all items marked as "Demolish" or "Remove" on the Drawings, or items required to be removed in order to install improvements shown on the Drawings. The spillway chain link fence must be inspected by the Engineer after vegetation removal prior to any removal of the fence.

2.05 VEGETATION REMOVAL

- A. Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include demolition, removal, and disposal as shown on the Drawings, including but not limited to removal and proper disposal of all items marked as "Remove Vegetation" on the Drawings.

2.06 OGEE CENTRAL VERTICAL MONOLITH JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete removal, surface preparation, adhesive primer installation, and joint sealant installation in accordance with Drawing Detail 1 on Sheet S-01.

2.07 OGEE/TRAINING WALL ABUTMENT JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. The unit price per linear foot for this item shall include all work required to perform concrete removal, surface preparation, adhesive primer installation, and joint sealant installation in accordance with Drawing Detail 2 on Sheet S-01.

2.08 OGEE/SPILLWAY HORIZONTAL CHUTE SLAB ABUTMENT JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. The unit price per linear foot for this item shall include all work required to perform concrete removal, surface preparation, adhesive primer installation, and joint sealant installation in accordance with Drawing Detail 3 on Sheet S-02.

2.09 UPSTREAM APRON CRACK REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of crack repair made, as measured along the length of each crack designated for repair on the Drawings.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete surface preparation, concrete injection port valve installation, valve removal flush with surface after completion, and application of sealants in accordance with Drawing Detail 4 on Sheet S-02.

2.10 UPSTREAM APRON JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete surface preparation, inclusive of existing caulking removal and cleaning, backer rod installation, and application of sealants in accordance with Drawing Detail 5 on Sheet S-03.

2.11 UPSTREAM APRON CONCRETE REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of cubic yards of material placed as shown on the Drawings. Measurement will be by manual volume calculations as determined by the Owner.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete surface preparation, inclusive of existing concrete removal, surface prep/roughening, and application of concrete in accordance with Drawing Detail 6 on Sheet S-04.

2.12 LOWER SPILLWAY CHUTE SLAB VERTICAL JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete removal, surface preparation, adhesive primer installation, and joint sealant installation in accordance with Drawing Detail 7 on Sheet S-05.

2.13 TRAINING WALL/SLAB JOINT REPAIR

- A. Measurement: The quantity to be paid for under this item shall be the actual number of linear feet of joint repair made, as measured along the length of each joint designated for repair on the Drawings.
- B. Work: The unit price per linear foot for this item shall include all work required to perform concrete removal, surface preparation, adhesive primer installation, and joint sealant installation in accordance with Drawing Detail 8 on Sheet S-06.

2.14 FENCE GATE

- A. Measurement: Measurement shall not be made for this item.

- B. Work: The lump sum price for this item shall include removal of a section of chain link fabric and cross bars and the installation of a new swing gate between the existing chain link line posts. The gate will be approximately 5 feet wide; however, the width and location of the gate installation may be adjusted by the contractor to fit between the existing fence posts.:

2.15 LADDER

- A. Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include the procurement and installation of a ladder to allow for spillway access through the gate described above. The ladder shall be the 4-step folding aluminum pontoon and dock ladder, manufactured by Whitecap (Part No. S-1865) or similar and in accordance with these drawings and the project specifications.

2.16 OPTION: REPLACE REMAINING NORTH SIDE FENCING (FABRIC ONLY)

- A. The quantity paid under this item shall be the actual number of linear feet of chain link fence fabric removed and replaced, as measured along the base of the fence prior to removal. The quantity of fence fabric requiring removal will be contingent on the amount of fence damaged by the existing overgrown vegetation. An inspection of the fence shall be conducted by the engineer after vegetation is removed to determine the need for replacement. If the vegetation can be removed from the fence and no damage to the fence is observed, this item may not be considered applicable.
- B. The unit price per linear foot for this item shall include providing removal and disposal of damaged chain link fence fabric and the installation of new fence fabric on the north side of the spillway. This item will be paid in partial payments as follows:
 - 1. 50% of the linear foot price after initial removal
 - 2. 50% of the linear foot price after installation of new fence fabric

2.17 TRAFFIC CONTROL

- A. Measurement: Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include providing, maintaining, repositioning, and removing traffic control devices, signage, markings, flaggers, warnings, barricades, cones, barrels, permitting, permitting, traffic control plan submittal for owner approval Owner, and other devices as shown on the Drawings and as required to maintain safe flow of pedestrians and traffic in accordance with the NCDOT Manual on Uniform Control Devices (MUTCD) throughout all phases of the project. Traffic Control will be paid in partial payments as follows:
 - 1. 25% of the lump sum price on the first partial payment estimate made after any work has been performed on the Traffic Control pay item.
 - 2. 25% of the lump sum price on the first partial payment after work is 25% complete
 - 3. 25% of the lump sum price on the first partial payment after work is 50% complete.
 - 4. 25% of the lump sum price on the first partial payment after work is 100% complete.

-- End Traffic Control items --

2.18 PROJECT VIDEO AND PHOTOGRAPHS

- A. Measurement: Measurement shall not be made for this item.
- B. Work: The lump sum price for this item shall include providing Project photography as required in the Specifications, including but not limited to: video and photographs documenting the existing property conditions prior to the start of construction, periodically during construction, and at project completion.

2.19 OWNER'S CONTINGENCY (15% OF SUBTOTAL)

- A. Measurement: Measurement for this item shall be based on the measurement methods described for applicable work items provided under this item at the direction of the Owner.
- B. Work: This item shall be used at the Owner's sole discretion. Specific items to be provided shall be as directed by the Owner. Specific items shall include the Work described in the applicable contract items and shall be paid at the unit price established in the bid.

PART 3 PRODUCTS (NOT USED)

PART 4 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19
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 weekly unless directed otherwise by the Owner.
- 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 Owner or Engineer shall be held at the City of Raleigh Engineering Services Department, Stormwater Division or at the Project site as set forth in the Pre-construction meeting.
- F. Contractor's project superintendent shall attend meetings.
- G. Contractor shall notify suppliers and subcontractors to attend meetings as appropriate or as required by Engineer.
- H. Contractor shall schedule pre-installation conferences and material testing meetings as required in the individual specification sections.
- I. Notify Engineer of project meetings scheduled by the Contractor.
- J. The Owner 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, RFI's, Field Orders, Change Orders, and Site Inspections.
- L. The Owner will prepare agenda with copies to participants, preside at meetings, prepare minutes and distribute to participants for meetings scheduled by the Engineer.
- M. The Owner will prepare sign-in sheet and obtain signatures, e-mail addresses, and phone numbers from each attendee for distribution with the meeting minutes.

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 01 35 13 Specific Project Requirements

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00
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. Weekly Work Plan.
 - 5. Schedule of Submittals.
 - 6. Video and photographic inspection.
 - 7. Certificates of Compliance.
 - 8. Catalog data.
 - 9. Shop drawings.
 - 10. Manufacturer's installation procedures.
 - 11. Samples.
 - 12. Testing and startup reports.
 - 13. Operation and maintenance instructions.
 - 14. Warranties.
 - 15. Spare parts and maintenance materials.
 - 16. Soil compaction testing and blast related testing results.

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 01 35 13 Specific Project Requirements

1.03 SUBMITTAL PROCEDURES

- A. Provide a PDF electronic copy of each submittal to the Owner's project manager via the e-Builder® web interface. For projects not utilizing e-Builder, submittals shall be electronic via email and shall not exceed a file size of 15 MB unless otherwise approved by the Owner in advance.
- B. Number transmittals sequentially beginning with 1. Resubmitted items should retain the original number but with an added suffix letter starting with "A".
- C. Each submittal shall include a transmittal form.
- D. Submittal cover sheet shall include the following information:
 - 1. Contractor's name.
 - 2. Owner's name. City of Raleigh (Stormwater)
 - 3. Project name.
 - 4. Engineer's job number.
 - 5. Submittal reference number (submittals shall be numbered using a three digit identifier with a suffix indicating the submittal cycle. Example: 001a, 001b, 001c indicates the first, second, and third submittal for a particular item. Subsequent item submittals would be 002, 003, 004, etc.).
 - 6. Specification section number.
 - 7. Drawing and detail number, when appropriate.

8. Equipment or Item Description.
 9. Supplier.
 10. Manufacturer.
 11. Contractor Approval Stamp.
 12. Exceptions taken to Project Documents.
- E. Apply Contractor's stamp to each submittal, signed or initialed and dated, certifying that Contractor has reviewed submittal for conformance with requirements of the Contract Documents, and has coordinated submittal with related work.
 - F. Schedule submittals to expedite the project and deliver to coordinate submission of related items. Allow a minimum of ten (10) working days for Owner/Engineer's review.
 - G. Clearly 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 electronically as required; identify changes made since previous submittal.
 - J. Distribute PDF electronic copies of reviewed submittals to concerned parties. Instruct parties to promptly report inability to comply with provisions.
 - K. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.
 - L. Engineer's review of submittals shall not relieve Contractor of responsibility for complete compliance with Contract Documents.

1.04 ADMINISTRATIVE SUBMITTALS

- A. Construction Progress Schedule
 1. Submit an electronic copy of the initial progress schedule 15 days after date of Owner-Contractor Agreement.
 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 workday 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 anticipated monthly partial payment requests amounts for the duration of the project.
 5. Submit revised schedule with each Application for Payment, as required for updating and identifying changes since previous version.
 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 01 11 00, Summary of Work.
- B. Schedule of Values (lump sum contracts only)
 1. Submit an electronic copy 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 Engineer deems appropriate. Revise schedule and resubmit.
 3. Revise schedule to list approved Change Orders, with each request for payment.
- C. Schedule of Submittals
1. Contractor shall submit a schedule of submittals which includes projected date of submittal and allotted timeframe for Owner/Engineer review.
 2. Schedule of Submittals shall be updated and provided to the Owner on the same schedule as the Construction Progress Schedule.
- D. Weekly Work Plan
1. At the end of each work week, the Contractor shall provide the Owner a schedule for the work anticipated during the upcoming work week. The schedule for the upcoming work week shall be coordinated with the Owner's field representative/inspector.
- E. Video and Photographic Inspection
1. Submit digital copies of all video and photographic inspection. Pre-construction inspections shall be submitted prior to beginning work and post-construction inspections shall be submitted upon completion of milestones, substantial completion, and final completion as applicable.

1.05 TECHNICAL SUBMITTALS

- A. General
1. Submit the following as required by the individual sections of the technical specifications.
- 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.
- 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. Manufacturer's Installation Procedures
1. Installation procedures should indicate manufacturer's recommendations for proper installation of Product.
- E. 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.

F. 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.
6. The warranty period for all new equipment shall commence the date of substantial completion, as specified by the City, and shall extend for a period of twelve (12) months.

G. Soil Compaction, Concrete Testing, Hazardous Materials, and Blast Testing Results

1. Provide electronic copies of field test reports and laboratory test reports for all soil compaction testing/analysis, concrete testing, and blast testing/readings.
2. Submit within 3 days of receiving test reports from geotechnical firm and/or laboratory with a cover letter summarizing the results and whether they are acceptable under the conditions of the Contract Documents.
3. If hazardous materials or soil contamination was encountered, include test reports.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 13
SPECIFIC PROJECT REQUIREMENTS

This section forms a part of the Contract Documents and modifies the technical specifications as necessary for the project. Documents with changes are as noted below.

A. Division 1

1. **Section 01 50 00 Temporary Facilities and Controls**

a.1.03 A No electric power source will be provided by the City for this project. All power must be established by the Contractor by means of generators and temporary power.

2. **SECTION 01 78 39 Project Record Documents**

a. 1.05 E The contractor shall collect as-built horizontal and vertical locations of each repair conducted and record any deviations to the Plans or Specifications. No pipe or utilities are being installed for this project and no trenches are being excavated.

b.1.05 F A sealed field survey is not required for this project.

c. 1.05 G CCTV inspection is not required for this project.

d. In lieu of an as-built survey, the Contractor shall provide, as a submittal, a red-lined version of the design drawings and project manual to document deviations from the Plans. The red lines will include the surveyed locations of any required repairs not shown in the plans, including the northing and easting location, type of repair, and measurements.

B. Division 2

1. Section **Number**, **Title**

a.**Change/Add**

C. Division 3

1. **Section 03 30 00-A, Cast In Place Concrete and Joint Repair**

a. A custom specification has been developed for the products to be used for this project. See the specification for details.

D. Division 4

1. Section **Number**, **Title**

a.**Change/Add**

E. Division 5

1. Section **Number**, **Title**

a.**Change/Add**

F. Division 31

1. **Section 31 05 00, Earthwork**

a.The Earthwork specification has been included in the project manual. Currently, it is anticipated that only minimal earthwork associated with backfill following a tree removal will be part of the project scope and that the note details on Sheet S-07 provide sufficient guidance for the minimal earthwork required.

G. Division 32

1. Section 32 31 13 FENCING (CHAIN LINK)

- a.1.01 B 2: It is anticipated that existing fence posts, fittings, and framing can remain in-place.
- b. 1.01 B 3: The existing fabric may be damaged by vegetation and may require replacement in some areas. The extent of fence damage shall be evaluated by the Engineer after vegetation is removed. Any fence repairs must be approved by the Engineer.
- c. 2.03 For any replacement posts, base plates will be required to install fence posts to the concrete. These shall be steel plates, minimum 6" x 6" x 1/4", hot-dip galvanized. Plates shall have four pre-drilled holes for anchor bolts. Plates shall be welded to the fence posts in accordance with the current AWS Structural Welding Code – Steel
- d. 2.03 For any replacement posts, anchor bolts will be required to install fence posts to the concrete. These shall be galvanized steel epoxy-set threaded rods with a minimum diameter of ½ inch. Anchoring epoxy shall be Sika AnchorFix-1 or similar. Embedment of anchor bolts shall be a minimum of 5 inches or as recommended by the manufacturer, whichever is greater. Stability of all installed fence posts shall be accessed by the Engineer.
- e. 2.04 Concrete for mounting fence posts in the ground is not required for this project.
- f. 3.01 B Setting posts: The steel base plate shall be welded to the base of the posts prior to installation.
 - i. Ensure the concrete is free of debris prior to installation of the posts.
 - ii. Drill four holes into concrete for anchor bolts with a rotary hammer drill at the appropriate spacing to install the base plate and per the manufacturer's specifications
 - iii. Install the anchor bolts through the base plate using a torque wrench per the manufacturer's specifications.
 - iv. Shim the base plate as necessary to ensure a plumb alignment.

END OF SECTION

SECTION 01 45 00
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 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 01 35 13 Specific Project Requirements

1.03 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.
- J. The Contractor shall be responsible for providing equipment and products that comply with these requirements.

1.04 INSPECTION AND TESTING LABORATORY SERVICES

- A. Unless included in a specific item as described in Section 01 22 00, Unit Prices, Owner shall employ and pay for the services of an independent testing firm and/or laboratory

to perform tests and approvals. Contractor shall cooperate with inspection and testing personnel to facilitate required inspections and/or tests.

- B. Contractor shall provide the Owner the following advance notices when testing is required:
 - 1. In the Weekly Work Plan submitted to the Owner at the end of each week
 - 2. Written 24-working hour advance notice (minimum)
- C. Initial required testing will be paid for by the Owner. Contractor shall pay for retesting required by the failure of the initial test to meet the requirements of the specifications.

1.05 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, monitoring, 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.

1.06 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.

1.07 LABORATORY REPORTS

- A. After each inspection and test, the independent testing firm shall submit report(s) as specified in Section 01 33 00, Submittal Procedures.

1.08 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
- 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.

1.09 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 01 33 00, Submittal Procedures.
- E. During performance of any work on-site the technician shall observe all safety requirements as specified by the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 50 00
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, and protection of the work.
- E. Construction Facilities: Access roads, temporary construction area access, parking, progress cleaning, and project signage.

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 01 35 13 Specific Project Requirements

1.03 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.
 - 2. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes.
- C. Telephone Service
 - 1. Provide, maintain and pay for telephone service to field office as required by Contractor.
- D. Water
 - 1. Provide, maintain, and pay for suitable quality water service required for construction operations.
 - 2. Where practical, Owner will provide access to water for use during construction through a metered connection. Contractor shall be billed monthly at Owner's published water rates. Contractor shall follow procedure for obtaining metered connection as outlined in the City of Raleigh Public Utilities Handbook.
 - 3. Contractor shall be required to extend water lines or provide hauling as required for Contractor's use from existing hydrants, as designated by the 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.

1.04 WORK ON PUBLIC RIGHTS-OF-WAY

- A.
- B. Work on this Project may cross rights-of-way under jurisdiction of the N.C. Department of Transportation (NC DOT):
 - Work in Wake County:
 - Division 5, District 1
 - District Engineer
 - 4009 District Drive, Raleigh, NC 27607 (919) 733-3213
- C. Work shall comply with requirements of the Encroachment Agreement(s) as attached to Project Manual.
- D. Contractor shall post Bonds with NCDOT as required by Encroachment Agreement(s) and provide a copy of the bonds to the Engineer.
- E. Prior to start of Work, notify the Office of the N.C. Department of Transportation as indicated in the encroachment agreement(s). Also notify the Owner.
- F. Work shall conform to the requirements and be subject to the approval of the above agency(ies).
- G. Contractor shall be responsible to the Owner for the cost of all DOT inspection that is billed to the Owner by the NCDOT as indicated in the Special Provisions of the Encroachment Agreement(s). Such cost shall be deducted from the Contractor's pay request.
- H. Submit letter to the above District Engineer(s) when work is complete, as required by the Encroachment Agreement(s).
- I. Submit letter of approval for completed Work from the above agency(ies) with Final Payment Request.
- J. Clean rights-of-way as work progresses and daily.
- K. Power broom existing pavement as work progresses.
- L. 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", "Standard Specifications for Roads and Structures", and "Roadway Standard Drawings."
- M. Consult with the above agency(ies) in establishing public thoroughfares to be used for haul routes and site access.
- N. Confine construction traffic to designated haul routes.
- O. Provide traffic control along haul routes to regulate traffic, to minimize interference with public.
- P. Maintain access to fire hydrants, free of obstructions.
- Q. Maintain pedestrian access at all times.

1.05 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 limited to, cones, drums, flares, warning signs, temporary pavement marking, warning lights, and flagperson(s).

- 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. Parking notifications and/or provisions for alternate public parking as shown on Drawings.
 - 5. Pedestrian detours meeting ADA requirements.
 - 6. Provision of access for emergency vehicles.
- C. Traffic control devices shall be used in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and the North Carolina's Supplement to the manual.
- D. Provide personnel trained in traffic control.
- E. Steel plates shall be used to cover all open excavation within the roadway when road is temporarily reopened to traffic prior to backfilling and paving. Grade A36 steel of a size to cover openings completely and shall be of suitable thickness to support all traffic that may pass over the plate. Steel plates shall be solid with only small holes on the sides to aid in lifting and moving the plates.
- F. Submit Traffic Control Plan (TCP) sealed by a licensed North Carolina Professional Engineer for Owner/Engineer approval which addresses the following items at a minimum:
 - 1. Complies with requirements of NCDOT Manual on Uniform Control Devices (MUTCD) and addresses traffic control for all phases of the project.
 - 2. Sequencing to provide and maintain safe resident access to homes at all times during the project. Contractor shall designate temporary parking area and safe pedestrian route to residence on the TCP while driveway access is unavailable due to construction.
 - 3. Road or lane closure details including:
 - a. Phasing.
 - b. Timeframes.
 - c. Traffic flow.
 - d. Alternate parking and access for impacted residence(s).
 - 4. Detour route(s) and timeframes.
 - 5. Location and type of signage, barricades, cones, drums, barrels, warning lights, flagperson(s), etc. and duration of use.

1.06 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 workers, and to protect existing facilities and adjacent properties from damage from construction operations.
 - 2. Provide barriers/protection for plant life designated to remain. Replace damaged plant life.
 - 3. 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. Precautionary measures shall be taken to minimize dust emissions, including, but not limited to, periodic sprinkling or wetting of the site. The Contractor has the option of using a dust palliative. The Contractor must comply with all local requirements.
 - 3. Provide positive means to prevent airborne dust from dispersing into atmosphere.
- E. Noise Control:
 - 1. Equipment being used for construction shall have standard equipment manufacturer's mufflers and noise-reducing equipment in use and in proper operating condition.
 - 2. Between 6:00 p.m. and 7:00 a.m., noise from Contractor's operations shall not exceed limits established by applicable laws or regulations and in no event shall exceed 86 dBA at a distance of 50 feet from the noise source
- 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 in landscaped or non-traffic load bearing areas.

1.07 CONSTRUCTION FACILITIES

- A. General
 - 1. Construction facilities shall be the responsibility of each Contractor for their respective work unless noted otherwise.
- B. Access Roads/Drives
 - 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.
 - 3. Access roads shall be restored to a condition that equals or exceeds the condition that exists prior to construction activity.

Temporary Access to Construction Areas

- 4. Contractor may choose to construct and maintain temporary access measures to facilitate movement of manpower and equipment/supplies between different areas of the job site.
- 5. It is anticipated that a temporary fence cut may be warranted between the spillway and upstream apron areas for this purpose.
- 6. Contractor shall submit a temporary access plan indicating measures to be taken prior to implementation.
- 7. Upon job completion, temporary measures shall be restored to a condition that equals or exceeds the condition that exists prior to construction activity.

- 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 to be 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.

1.08 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 or better condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 52 00
MAINTENANCE OF OPERATIONS DURING CONSTRUCTION

PART 1 GENERAL

1.01

- A. Lake Johnson Dam is an earthen embankment that impounds Lake Johnson, a popular 148-acre public park and recreational lake for the City of Raleigh, North Carolina. The recreational lake includes an intake structure, temporary siphons, spillway and a greenway which forms a continuous path around the lake. The lake formerly served as a raw water source for the City of Raleigh and remains a designated emergency source. The intent of this section is to outline the minimum requirements necessary to ensure the function of the dam embankment, ancillary structures and to provide continuous and safe use of the facility by the Owner and the general public.
- B. The Contractor shall schedule and conduct the work so as not to affect the stability of the dam embankment, the ability to control the lake level and to minimize, to the extent possible, the impact to use of the park and recreational facility. The Contractor shall not initiate any work on the upstream apron of the dam embankment until the lake level is lowered to the prescribed elevation. The City will be responsible for lowering and maintaining the lake level during the project. In performing the work shown and specified, the Contractor shall plan and schedule his work to meet the constraints and construction requirements as outlined in this section.
- C. The Contractor shall be responsible for coordinating the general construction and for ensuring that temporary power is available for all temporary facilities that are required to be online at any given time.
- D. Work not specifically covered in the following paragraphs may, in general, be done at any time during the contract period, subject to the operating requirements and constraints and construction requirements outlined hereinafter. All references to days in this Section shall be consecutive calendar days.

1.02 GENERAL CONSTRAINTS

- A. The public greenway across the top of the dam will need to be closed to the public during contractor operations, at least for the upstream apron portions of the work, as the proximity of work areas to the greenway would present a safety issue. The public greenway around the lake shall be maintained in continuous operation in a safe manner during the construction period. All shutdowns shall be coordinated with and scheduled through the Engineer at times suitable to the Owner. Shutdowns shall not begin until all required materials are on hand and ready for installation. Each shutdown period shall commence at a time approved by the Owner, and the Contractor shall proceed with the Work continuously during the time specified by the Engineer until the Work is completed.
- B. The Contractor shall schedule partial closures of the public greenway in advance and shall present all desired greenway closures in the 30 and 60-day schedules at the progress meetings (see Section 01200). Greenway closures and other facility shutdowns shall be fully coordinated with the Owner and Engineer at least 72 hours before the scheduled closure or shutdown so that adequate public notice can be

provided. Except where otherwise stated, Owner's personnel shall operate Owner's facilities involved in the shutdown.

- C. The Contractor shall be responsible for providing a protective barrier to separate the public from construction traffic and construction activities. This shall include vehicle traffic on public streets and pedestrian traffic on public greenways. Such barriers shall include temporary fencing, Jersey Barriers or approved portable precast concrete or water filled plastic barrier blocks and accompanying signs and notices that can be relocated as need during construction and completely removed after construction. Locations for temporary and permanent barriers are to be submitted on a Contractor Site Access Plan. The Contractor shall include provisions for Owner access to the designated areas from the Work area. At each barrier location, the Contractor shall be responsible for posting signage and maps describing of the extents of the area(s) closed off from pedestrian traffic, alternate routes, as applicable, and the anticipated duration of the temporary closure. All sign lettering shall be at least two inches in height. Maps shall be laminated and securely affixed. The Contractor shall also be responsible for policing each barrier location, including posting of guards, as necessary, to prevent pedestrian intrusion and for general site security.
- D. The Contractor shall contact NC811 to locate utilities in the working area a minimum of three (3) working days prior to starting work. The contractor is responsible for verifying that all contacted utilities have completed the positive response. The contractor shall update the NC811 call to prevent it from expiring for the full duration of the work.
- E. Any temporary work, facilities, roads, walks, barricades, protection of existing structures, piping, siphons and siphon priming equipment, pumps, valves, equipment, signage, policing, etc., that may be required within the Contractor's work limits to maintain continuous and dependable facility operation and security shall be furnished by the Contractor at the direction of the Engineer at no extra cost to the Owner.
- F. If the Contractor impairs operation of the facility as a result of not complying with specified provisions for maintaining facility operations, then the Contractor shall immediately make all repairs or replacements and do all work necessary to restore facility use to the satisfaction of the Engineer. Such work shall progress continuously to completion on a basis as directed by the Engineer.

1.03 GENERAL OPERATING REQUIREMENTS, CONSTRAINTS, AND CONSTRUCTION REQUIREMENTS

- A. Access to Site, Roadways, and Parking Areas
- B. An unobstructed traffic route from the Contractor staging area near the downstream left abutment to the remaining dam and greenway shall be always maintained for the Owner's operations personnel and maintenance equipment. Construction personnel may park in areas designated on the drawings or in other areas approved by the Engineer. Parking on Lake Dam Road and surrounding private property is prohibited. The General Contractor shall be responsible for providing access to and for preparing and maintaining approved parking areas.
- C. An unobstructed traffic route to the dam and spillway structure for Owner use shall be maintained at all times for the Owner's operations personnel and maintenance equipment. Vehicular access to the designated areas for Owner personnel shall be always maintained by the Contractor.

1. The Contractor shall provide temporary measures to protect the existing pavement using measures acceptable to the Engineer. The Contractor shall repair any damage to existing paved surfaces, including paths, greenways and access roads, that are scheduled to remain that occurs during the construction period. The intent of these Specifications is that paved areas damaged during construction be repaired by placement of a new pavement section acceptable to the Engineer and the Owner.
2. Any areas disturbed along the shoulders of the access road and interior roads, on public roads and right-of-ways and elsewhere inside and outside of the facility shall be repaired, graded, seeded, etc. as necessary to match pre-existing conditions.
3. The Contractor shall not undertake the restoration/construction of new roadway or greenway (paved, gravel, or asphalt overlay) shown on the Drawings, until the Contractor can effectively protect pavement from damage by construction equipment or until all other work on the facility has been completed.
4. It shall be the responsibility of the Contractor to obtain any permits required from the N.C. Department of Transportation and pay all associated fees.

1.04 SPECIFIC OPERATIONAL CONSTRAINTS

A. Control of Lake Level

1. *Pursuant to the Certificate of Approval to modify Lake Johnson Dam, The impoundment shall be maintained at approximately the minus 5-foot construction level [approximately El 338 feet] during repairs to the spillway and upstream apron concrete apron joints and cracks of the dam. In addition, after the repairs have been completed, the reservoir level will be maintained at the minus 5-foot level until the Engineer and the Division of Land Resources inspectors have completed their inspections of the upstream face of the dam.*
2. It shall be the responsibility of the Contractor to take all measures and to furnish all labor and equipment necessary to comply with the above requirements.
3. In the event that adverse weather or streamflow conditions interfere with the City's ability to adequately control the lake level, the only recourse for compensation due to delays to the work that are outside of the Contractor's control shall be to apply to the City for a no-cost extension of the Contract Time and/or the time allowed for care of water. All such requests by the Contractor shall be subject to the provisions of Article 12 of the General Conditions, as amended by the Supplementary Conditions. The Contractor shall not be entitled to any other form of compensation due to adverse weather or actions by the City in connection with control of the lake level. During the course of the Work, the Owner may elect to lower the lake level at times and in a manner other than specified for the Contractor above in order to facilitate work by the Intake Contractor on the intake structure or for other reasons. The Contractor shall cooperate with the Owner to achieve the desired level of lake level control and shall have no claim for interference with the Work occasioned by such activities.

B. Construction Sequence and Greenway Closure

1. For the duration of the project, pedestrian access shall be detoured via the alternate permanent greenway to the east and south of the dam. Pedestrians will have uninterrupted access to the greenway system via this route but will be prohibited from access to the dam improvement construction access until work on the dam has been completed.

END OF SECTION

SECTION 01 60 00
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 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 01 35 13 Specific Project Requirements

1.03 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.

1.04 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.

1.05 STORAGE AND PROTECTION

- A. Keep on site storage of material to a minimum. Owner shall approve of any onsite storage in advance.
- 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, light blocking, or climate-controlled enclosures, as required.
- 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.

1.06 DAMAGED PRODUCTS

- A. Remove damaged Products from Project site at no additional cost to the Owner and provide Owner with documentation of defects/damage.

1.07 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.

1.08 SUBSTITUTIONS

- A. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. 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.
- D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, when they are requested directly by a subcontractor or supplier, or when acceptance will require revision to the Contract Documents.
- E. 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. The Engineer's decision regarding evaluation of substitutions shall be considered final and binding. Requests for time extensions and additional costs based on submission of, acceptance of, or rejection of substitutions will not be

allowed. All approved substitutions will be incorporated into the Agreement by Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 70 00
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination.
- B. Notifications.
- C. Cutting and patching.
- D. General installation provisions.
- E. Cleaning and protection.
- F. Final inspection and tests.
- G. Close out procedures.

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 01 35 13 Specific Project Requirements (Circle back-relevance?)

1.03 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work signifies Contractor 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.

1.04 NOTIFICATIONS

- ~~A. The Contractor shall give advance written notification to all the owners of all private property where the operations will interfere with the property. The Contractor shall notify property owners regarding construction, utility interruptions, and limited driveway access. Notifications shall include, but are not limited to:~~
 - ~~1. Notification of the start of construction~~
 - ~~2. Notification of planned utility interruptions~~
 - ~~3. Notification of limited access to private property~~
 - ~~4. Lane and road closures~~
- ~~B. Written notification shall be issued on Contractor's Letterhead~~
- C. Additional notifications may be required for project specific items not defined below as determined by the Owner.

1.05 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 Contractor's 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 and in compliance with OSHA requirements.
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 31 23 34, Trenching for Storm Drainage.~~
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.

1.06 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 optimum weather conditions and at the appropriate point in the project in order to 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.

1.07 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.
 - 13. Direct sunlight
- D. Clean Project prior to final inspection. Project clean up shall include, but not be limited to, the following:
 - 1. Clean surfaces exposed to view as recommended by manufacturer
 - 2. Remove temporary labels.
 - 3. Clean debris from drainage systems.
 - 4. Sweep paved areas.
 - 5. Rake clean landscaped surfaces.
 - 6. Remove waste, and surplus materials.

7. Remove temporary construction facilities.

1.08 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.

1.09 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 01 33 00, 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. Contractor's Affidavit of Release of Liens to Owner
 - 2. Consent of Surety for Final Payment
 - 3. Affidavit of Payment of Debts and Claims
 - 4. Final Certified Payroll Information
 - 5. Affidavits of Release of Liens from Subcontractors and Suppliers to Contractor.
 - 6. As-built Drawings (Ask Owner if they want this-don't think it is needed)
 - 7. Certified statement that all final punchlist items have been completed with punchlist attached.
 - 8. Written releases of liability and claims from property owners, for which the Contractor negotiated temporary easements/right-of-entry with for laydown, staging and/or access.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for Record Documents to be submitted by the Contractor.

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 01 35 13 Specific Project Requirements

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. City of Raleigh – CCTV Inspection Requirements
 - 2. City of Raleigh – Stormwater Conveyance As-Built Submittal Checklist (the “As-Built Checklist”)

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00, Submittal Procedures. Each item is described in more detail in 1.05 and/or applicable reference standards in paragraph 1.03:
 - 1. Drawings – PDF and hard copy of drawings legibly marked as described in 1.05.
 - 2. Specifications – PDF and hard copy of specifications legibly marked as described in 1.05.
 - 3. CAD File
 - 4. Point File – comma separated variable text file format, arranged in the following column order: point number, northing, easting, elevation, description.
 - 5. Sealed field survey drawing showing improvements
 - 6. CCTV data
 - 7. Other applicable data as required herein or in reference standards specified in

1.05 RECORD DOCUMENTS

- A. Contractor shall follow the requirements and shall collect all information and data as required by the As-Built Checklist, included in the Appendix. As-Built Checklist items applicable to or required from the Contractor include: 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 17, 18, 19, and 20. Information and data required by the City of Raleigh Stormwater Conveyance As-Built Submittal Checklist shall be considered a Record Document.
- B. Contractor shall record information concurrent with construction progress.
- C. Contractor shall store Record Documents separate from the Contract Documents used for construction.
- D. Specifications: Contractor shall legibly mark and record at each Product section of the Specifications a description of each actual Product installed, including the following:

1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and Change Orders.
- E. Record Documents and Shop Drawings: Contractor shall legibly mark each item to record actual construction including:
1. As-built elevations of structures in relation to benchmark datum.
 2. As-built horizontal and vertical locations of underground utilities and appurtenances to existing permanent surface improvements that are indicated on the Drawings.
 - a. Provide top, invert, diameter, and depth information on drainage structures (manholes, inlets, endwalls, etc.).
 - b. Provide pipe size, material, length, slope; manhole and inlet size, rim elevations, inverts, top elevations; endwall top elevations and dimensions; wingwall elevation and dimensions; manhole and inlet depth; manhole and inlet material; abandoned and or removed features; SCM facilities; channel/swale/ditch identification with length, bottom width, side slopes, and longitudinal slope; and location of all open channel conveyances.
 3. Indicate on Drawings the pipe size, pipe material (including pipe class and coatings) and pipe length.
 4. Field changes from original Drawings.
 5. Details not on original Drawings.
 6. Data on all utilities in the trench zone.
 - a. Contractor shall document infrastructure abandonment items.
 - b. Contractor shall include rock profile
- F. Contractor shall provide as a Record Document field survey sealed by a North Carolina Professional Land Surveyor showing all installed improvements, including horizontal and vertical location, materials, sizes, lengths, dimensions, topography for graded areas (including roads, driveways, streams, ditches, etc.), and other relevant information. For improvements which tie into existing systems, the upstream and downstream bounding drainage structures shall be included in survey.
- G. As a Record Document, the Contractor shall provide closed-circuit television (CCTV) inspection for all newly installed pipes and culverts as required in 33 01 30.72, UV GRP Cured-in-Place Pipe; Section 33 42 11, Stormwater Gravity Piping; and Section 33 42 13, Reinforced Concrete Box Culvert. The CCTV inspection collected by the Contractor is submitted to the Engineer so that the Engineer can QA/QC and certify that the data is complete.
- H. Contractor shall submit to Owner with Contractor's final Application for Payment a complete set of Record Documents, including, but not limited to, the sealed field survey, digital CAD drawing file(s), and survey point file for these to be reviewed and compiled by others into the final sealed as-built drawings.
- I. Submitted Record Documents shall be subject to verification by the Engineer and acceptance of the Owner. The Contractor shall coordinate with the surveyor and shall make necessary corrections to data and documents at no additional cost to the Owner. When all conditions of the stormwater infrastructure permit have been met (including as built and CCTV requirements), the permit can be closed out. Final payment to the Contractor shall not be made until Record Documents are accepted by the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02 41 00
DEMOLITION AND SALVAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies demolition, salvage, cutting, patching, relocation, and abandonment, removal, and disposal related to the Work shown on the Drawings and as specified herein.
- B. The Contractor shall furnish all labor, material, equipment, and incidentals required for removal, salvage, and modification of existing features.

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 01 35 13 Specific Project Requirements

1.03 SALVAGE, DISPOSITION, STORAGE, AND HANDLING

- A. Salvage items designated by the Owner for salvage are identified in the Contract Documents.
- B. Clean, list, and tag identified equipment for storage.
- C. Protect from damage salvaged equipment and deliver to locations designated by Owner.

1.04 DISPOSAL OF EQUIPMENT AND MATERIALS

The Contractor shall dispose of offsite all items designed in the Contract Documents for demolition or removal, including but not limited to piping, concrete, pavement, and appurtenances, except for items specifically designated otherwise by the Engineer and identified herein for salvage. All demolished or removed materials shall become the property of the Contractor and shall be promptly removed from the site and properly disposed of in accordance with all applicable Federal, State, and Local laws and regulations. Demolition debris shall not be used for fill or backfill.

1.05 PROTECTION OF PROPERTY

- A. Remove materials in a manner that protects adjacent structures, piping, or landscaping to remain in place.
- B. Repair or replace property that is damaged at no additional cost to the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Notify the Engineer at least one week in advance of beginning any demolition work so that existing conditions can be reviewed and the bounds of the demolition and impacts

on any adjacent or nearby structures, piping, properties, or roadway improvements can be assessed.

3.02 OPERATION PROCEDURES

- A. Start and complete work in order or precedence as established by the latest approved project schedule.
- B. Execute work to protect occupants from injury and discomfort. Provide protection to persons and property. Conduct operations to ensure minimum interference with roads, walks, driveways, and other adjacent structures.
- C. Provide the following:
 - 1. Pedestrian traffic diversion where necessary to ensure safe passage of residents in or near areas of work.
 - 2. Substantial barricades and safety lights as required.

3.03 DEMOLITION AND REMOVAL

- A. Structures and Piping
 - 1. Demolition and removal of structures consist of designated stormwater catch basins, yard inlets, junction boxes, stormwater drainage piping, sanitary sewer piping, sanitary sewer manholes, sanitary sewer services, water main, hydrants, valves, water services, and any other structures. Neatly cut and remove materials to the limits shown on the Drawings, and prepare trenches and adjoining areas to receive new pipelines, structures, and appurtenances.
 - 2. Wet down work during demolition operations to prevent dust from rising.
 - 3. Provide shoring, bracing, and other supports to prevent movement, settlement, or collapse of remaining excavations and trenches. Arrange shoring, bracing, and supports to prevent overloading of existing structures.
 - 4. Take precautions necessary to prevent damage to existing remaining work or to adjacent property. Execute work using methods that will prevent interference with access to adjacent properties by residents.
- B. Pavement
 - 1. Pavement, curb and gutter, driveways, and sidewalks designated on the Drawings for removal or demolition shall be removed to the soil subgrade.
 - 2. When portions of asphalt pavements, concrete driveways, sidewalks, and curb and gutter are to be removed and later construction is to be connected, edges shall be saw cut, on a neat line at right angles to the curb face.
- C. Salvage
 - 1. The Owner has the right to salvage any items scheduled for removal. The Contractor shall notify the Owner 14 days prior to any salvage or demolition work to determine the disposition of items to be removed. The Engineer will mark items to be salvaged. Such items shall be properly disconnected, removed from their foundations, cleaned, and stored as specified in paragraph 1.03 above.
 - 2. The Contractor shall notify effected property owners of items to be removed 14 days prior to any salvage or demolition work. Property owners shall be informed that they have 14 days to remove items they want to salvage, otherwise items will be removed and disposed of.

3.04 ABANDONMENT

- A. Abandonment of existing buried stormwater piping shall per requirements of the Drawings. If Drawings do not address abandonment requirements, Contractor shall

install 12-inch thick (or as specified by the Engineer) concrete bulkhead(s) at abandonment locations designated on the Drawings and flowable fill placed within the pipeline identified for abandonment.

B. Methods, materials, and finished work are subject to review by the Engineer.

3.05 CLEANUP

A. Remove debris, rubbish and materials resulting from cutting, demolition, or patching operations.

B. Transport materials and legally dispose of offsite.

C. Leave property and adjacent areas clean and satisfactory to the Engineer.

END OF SECTION

SECTION 03 30 00-A
CAST-IN-PLACE CONCRETE AND JOINT REPAIR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide labor, materials, and equipment required for placement of cast-in-place concrete and joint repair products. This Section includes general provisions for completing concrete repairs in the spillway and embankment upstream apron as indicated and in compliance with the Contract Drawings. Complete concrete repair work (crack, spall, and joint repairs) in accordance with these specifications and the material manufacturer's instructions regarding surface preparation, application, and curing. The location, approximate dimensions, and typical repair details are shown on the Contract Drawings. The location and dimensions of the repairs shall be verified in the field by the Contractor and approved by the Engineer. Report all Contractor-caused damage to existing or new concrete to the Engineer promptly upon discovery. Contractor-caused damage to newly placed concrete or existing concrete is the Contractor's responsibility and shall be repaired or replaced as directed by the Engineer at no additional cost to the Owner.
- B. Sikacrete 211 SCC Plus, Sikatop 111 Plus, Sika Anchor Fix-1, and Sikadur Hi-Mod LV epoxy resin, or approved equals, are specified for this project. Work included under this section includes, but is not limited to, the following:
 - 1. Concrete materials
 - 2. Concrete
 - 3. Mixing, placing and curing
 - 4. Concrete finishing

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 01 35 13 Specific Project Requirements

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. American Concrete Institute (ACI)
 - a. 301 Specifications for Structural Concrete for Buildings
 - b. 305 Guide to Hot Weather Concreting/Standard Specification for Hot Weather Concreting
 - c. 306 Guide to Cold Weather Concreting/Standard Specification for Cold Weather Concreting
 - d. 308 R-16 Guide to External Curing of Concrete
 - e. 318 Building Code Requirements for Structural Concrete
 - 2. American Society of Testing Materials (ASTM)
 - a. C31 Standard Practice for Making and Curing Concrete Test Specimens in the Field
 - b. C33 Concrete Aggregates.

- c. C39 Test for Compressive Strength of Cylindrical Concrete Test Specimens.
 - d. C94 Ready Mixed Concrete
 - e. C171 Sheet Materials for Curing Concrete.
 - f. C192 Making and Curing Concrete Test Specimen.
 - g. C227 Standard Test Method for Potential Alkali-Silica Reactivity of Cement-Aggregate Combinations
 - h. C309 Liquid Membrane-Forming Compounds for Curing.
 - i. C884 Thermal Compatibility Between Concrete and an Epoxy Resin Overlay
 - j. C920 Elastomeric Joint Sealants.
 - k. C1260 Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates
 - l. D1751 Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
3. N.C. Department of Transportation - Standard Specifications for Roads and Structures (NC DOT).

1.04 QUALITY ASSURANCE

- A. Concrete work shall conform to the requirements of ACI 318, ACI 301 and CRSI "Manual of Standard Practice" as a minimum.
- B. Methods and materials of work shall conform to the requirements of the standards and codes and recommended practices as referred to within this section.
- C. Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 3 years or more. Contractor shall have experience with a minimum of 3 similar projects.
- D. Adhere strictly to the manufacturer's recommendations regarding temperature at time of application for all work. Do not use epoxy materials when either the temperature of the concrete to be repaired or the ambient temperature is below 40 degrees F 24 hours before, during, or for a period of 48 hours after the completion of the repair. Temporary heat may be used to meet the specified requirements.
- E. The Contractor is ultimately responsible for the concrete repair work. Inspections by the Engineer or others do not limit the Contractor's responsibility.
- F. Make all parts of the work accessible for inspections by the Engineer. Correct any conditions not in conformance with the specifications at no additional cost to the Owner.
- G. Allow changes in the specified repair work methods only with the permission of the Engineer.
- H. Provide materials from a single manufacturer for all components of a single repair.
- I. Ensure the initial crack and joint repairs are observed and approved by the Engineer. The Engineer shall observe and approve the first repair of each type shown in the Plans.

1.05 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00, Submittal Procedures:

1. Test Reports:

a. Concrete Tests: Reports for 7-day and 28-day concrete compressive strengths. 7-day compressive strength of 5,000 psi and 28-day compressive strength of 6,500 psi are indicated in the Sikacrete 211 SCC Plus product data sheet and are to be met as an acceptance condition as determined by field sampling and testing in accordance with ASTM C39.

2. Catalog Data: Manufacturer standard drawings or catalog cuts for the following. Clearly indicate equipment to be furnished for the Project including options to be provided for the following:

- a. Patching compounds
- b. Joint systems
- c. Curing compounds

3. Submit proposed schedule and method of repairs: Include a description of the proposed equipment for mixing and applying concrete and other repair materials, the proposed mix design including all admixtures, the procedure for preparing the concrete surface prior to repair, the method of repair, and curing.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect Sika products from contamination or damage during handling. Do not use products which have been damaged, partially set, lumpy or caked. If the damaged product is in bags, the entire contents of the bag shall be rejected. Do not use product salvaged from used bags or reclaimed from cleaning bags.

PART 2 MATERIALS

2.01 AGGREGATES

A. Coarse aggregate for concrete, except as specified otherwise herein, shall be in accordance with ASTM C33 and graded per SIKA (or approved equal) product requirements.

2.02 SIKA AND MISCELLANEOUS PRODUCTS

A. Bonding and patching compounds: Compounds for bonding, patching, and structural repairs, shall be as follows: Polymer-Modified Patching Material: Unless otherwise approved, use for all concrete repairs as noted on the Concrete Drawings. Submit proposed materials and instructions. For concrete patching, Sikatop 111 Plus or approved equal system with corrosion inhibitors. Approved equals must also meet ASTM C 884. Sikacrete 211 SCC Plus or approved equal system designed for full depth concrete repairs. Optional amendment with aggregate, if chosen, shall meet manufacturer's requirements in proportioning and aggregate size. Bonding Agent shall be Sikaflex Primer 429 or approved equal or as indicated on Drawings. Where drawings require surface sealer, product shall be Sika Anchor Fix-1 or approved equal. Where drawings show crack repair by pumping through valves, product shall be Sikadur 35 Hi-Mod LV epoxy resin or approved equal.

B. Concrete curing paper: Conform to ASTM C171, Type 1, Waterproof Paper, shall be used. Polyethylene or similar plastic sheets shall not be used for concrete curing. Orange Label Sisalkraft by Fortifiber Building Systems Group, Blue Shield Grade 3560 by Holland Manufacturing, or equal.

- C. Joint sealer: Elastomeric Joint Sealant: Sikaflex 1A or approved equivalent. Sealant should be used in strict accordance with all manufacturer's recommendations, guidelines and specified procedures. Sealant shall be allowed to cure for seven (7) days before being immersed in water.
- D. Anchor bolts: Galvanized steel epoxy-set threaded rods with a minimum diameter of ½ inch. Anchoring epoxy shall be Sika AnchorFix-1 or similar.
- E. Curing compound: Shall be "DIAMOND CLEAR" or "EVERCLEAR" by Euclid Chemical Company, "MasterKure CC 250" by Master Builders, or equal. Compound shall conform to ASTM C1315, Type 1, Class A, 25% solids content minimum.

PART 3 EXECUTION

3.01 GENERAL

- A. Provide and install SIKA concrete and joint sealing compound products, or approved equal, at locations indicated on the Drawings.

3.02 PLACING

- A. Placing shall be per recommendations in SIKA product data sheets.

3.03 PLACEMENT IN EXTREME WEATHER

- A. Placing Concrete in Cold Weather: Comply with ACI 306. Do not place concrete when the atmospheric temperature is below 40 degrees F (>45 degrees for Sika 211 SCC Plus), or when the concrete is likely to be subjected to freezing temperatures within 24 hours after placement. Heat concrete as necessary to maintain a concrete temperature of between 65 and 75 degrees F when placed. Remove frozen material from aggregates before placing in the mixer.
- B. Placing Concrete in Hot Weather: Comply with ACI 305. When the outdoor ambient temperature is over 90 degrees F or as directed by the Engineer, provide methods so the temperature of the concrete as placed shall not exceed 75 degrees F. Shade concrete after placing and start curing as soon as the surface of the fresh concrete is sufficiently hard to permit it without damage. Unless specified otherwise, the control of hot weather concreting and the methods employed to control the temperature of the material both during placing and curing operation shall be in accordance with ACI 305R, Hot Weather Concreting.

3.04 CURING AND PROTECTION

- A. General: Protect concrete, including areas to be given a special finish, from damage by the sun, rain, flowing water, frost, and mechanical injury in accordance with ACI 308 R-16. Do not allow concrete to dry out for a minimum of seven days from the time it is placed. Provide water curing by keeping the surface of the concrete continuously wet by covering with water, with an approved water saturated covering, or by spraying. Water used for curing shall be fresh water. Where water curing is not used, provide curing by sealing the water in the concrete so that it cannot evaporate. This may be done by leaving the forms in place, covering with a waterproof curing paper laid with airtight joints, use of a curing compound, or by other approved means.
- B. Apply curing compound immediately after final finishing if a compound is to be used in lieu of other methods.

- C. Portions of the time during which either moisture or warmth is lacking shall not be counted effective for curing. When concrete is placed in cold weather, make provisions for maintaining the temperature of the air in contact with the concrete at not less than 50 degrees F for a period of not less than 7 days after placing, or at not less than 70 degrees F for a period of not less than 3 days after placing. Heating of the concrete in place shall be affected by salamanders or steam coils under canvas covers or by other approved means. Temperature within enclosures shall not exceed 100 degrees F, and apply adequate moisture during the heating period to prevent concrete from drying out. Rate of cooling after the protection period shall be approximately 1 degree F per hour for the first 23 hours and 2 degrees F per hour thereafter.

3.05 FINISHING CONCRETE

- A. Surface Finishes: Exposed concrete surfaces, except floors, bottom slabs, and walking surfaces, shall receive the following finish.
 - 1. As soon as the pointing and patching has set sufficiently to permit it, thoroughly wet surface with a brush and rub with a No. 16 carborundum stone or other equally good abrasive, bringing the surface to a paste. Continue rubbing sufficiently to remove form marks and projections, producing a smooth dense surface without pits or irregularities.
 - 2. Carefully spread or brush material, which in the above process has been ground to a paste, uniformly over the entire surface and allowed to reset. After the rubbing is complete, thoroughly drench and keep surface wet for a period of 7 days, unless otherwise directed. Obtain final finish by a thorough rubbing with a No. 30 carborundum stone or other equally good abrasive. Continue rubbing until entire surface is a smooth texture and uniform in color.
 - 3. Adjoining or adjacent work which has been disfigured by the above specified work shall be thoroughly cleaned by approved methods so that the complete unit presents the same appearance.
- B. All concrete surfaces shall receive a broom finish. Brooming shall be done in one direction and leave a uniform neat pattern.

3.06 TESTING

- A. Field Poured Specimens:
 - 1. Provide one set of specimens for compressive strength tests for each 100 cubic yards, or fraction thereof, of each class of concrete, placed each day. Not less than four specimens shall be made for each test. Specimens shall be made and cured in accordance with ASTM C31. Independent laboratory curing shall be per ASTM C192. When in the opinion of the Engineer there is a possibility of the air temperature falling below 40 degrees F, additional specimens shall be taken and cured in the field under conditions similar to those of the concrete in the structure. Test specimens in accordance with ASTM C39.
 - a. The standard age of specimens at test shall be 28 days. Of the four specimens made for each test, two shall be tested at 28 days for acceptance and one shall be tested at 7 days for information. The fourth specimen shall be a reserve.
 - b. The strength level of the concrete will be considered satisfactory so long as the averages of all sets of three consecutive strength test results (average of

two cylinders tested at 28 days) equals or exceeds the specified strength f'_c and no individual strength test result falls below the specified strength f'_c by more than 500 psi. When the test results do not conform to these requirements, the Engineer shall have the right to require changes in the mix design and conditions of temperature and moisture necessary to secure the required strength.

- c. Tests shall be performed by an independent laboratory as specified in Section 01 45 00, Quality Control.
- d. Test reports shall be submitted in accordance with Section 01 45 00, Quality Control.

B. Drilled Cores

- 1. Where there is a question as to the quality of the concrete in the structure, the Engineer may require additional testing in accordance with ASTM C42 for that portion of the structure where the questionable concrete has been found. If the results of these additional tests meet the requirements of the specifications, the Owner shall pay for the costs of the tests. If the results of the additional tests fail to meet the requirements of the specifications, the Contractor shall pay for the tests. Concrete failing to meet the specifications shall be removed and replaced at no additional cost to the Owner.

END OF SECTION

SECTION 31 05 00
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 and backfilling not associated with trenching for utilities or storm drainage, 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. Bank Stabilization: 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 01 35 13 Specific Project Requirements
- Section 31 11 00 Clearing and Grubbing, and Selective Tree Removal
- Section 31 23 34 Trenching for Storm Drainage
- Section 31 25 00 Sediment and Erosion Control
- 2. Section 32 92 00 Lawns and Grasses

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 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³)).
 - 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.

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. Lift: Layer of soil placed on top of a previously prepared or placed soil.
- G. Rock in Open Excavation: 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." Rock is further defined as materials and obstructions encountered that cannot be practically excavated with a large track mounted backhoe, such as a CAT-325 or larger, equipped with new rock teeth. Practical excavation is defined as the ability to remove at least 10 cubic yards during one (1) hour of continuous digging. Removal of "hard material" will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production. Trenches in excess of 10 feet in width and pits in excess of 30 feet in either length or width are classified as open excavation.
- H. 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. Soils deemed by the Engineer to be unfit for use on the Project.
 - b. Soil containing organic matter, debris, stones larger than 4 inches, or frozen material. Stones greater than 1 inch will not be permitted in the top 12 inches.
 - c. 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.
- I. Subgrade: Lowest elevation upon which fill or other work will be placed in the absence of unsuitable material.

- J. Topsoil: As defined in Section 32 92 00, Lawns and Grasses.
- K. Tunnel: Confined excavation below ground generally a horizontal direction for the installation of a structure or pipeline by means of manual excavation or by specific equipment designed to penetrate soil or rock and remove material.
- L. Unclassified Excavation: All material excavated, regardless of its nature or composition, except for undercut excavation (as defined herein), rock excavation (as defined herein), and material directed to be removed beyond the limits of the Drawings.
- M. Undercut Excavation: Removal and disposal of material below the subgrade lines indicated on the Drawings and placement/compaction of suitable backfill.
- N. Unsuitable Material: Excavated onsite material that is determined by the Owner or Engineer to be unsuitable for use as backfill, requiring offsite disposal of subject material.

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 78M.
- 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:

Test	ASTM Std.	Requirement
Fabric weight	D-3776	6 oz/sy
Grab tensile strength	D-5034	200 lbs
Mullen burst strength	D-3786	320 psi
Puncture strength	D-751	80 lbs

PART 3 EXECUTION

3.01 GENERAL

- A. Provide erosion control measures as specified in Section 31 25 00, Sediment and Erosion Control, clearing and grubbing as specified in Section 31 11 00, Clearing, Grubbing, and Selective Tree Removal and seeding as specified in Section 32 92 00, Lawns and Grasses.
- B. Protect existing structures and features designated 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 or recommendations from the geotechnical / materials testing firm.
- H. Finished grade shall be as specified by the contours on the Drawings plus or minus 0.10 foot except where a local change in elevation is required to match sidewalks, curbs, manholes and catch basins, or to ensure proper drainage. Allowance for topsoil and grass cover shall be made so that the specified thickness of topsoil can be applied to attain the finished grade. Likewise, allowance for subgrade, subbase and pavement thickness shall be made so that pavement surface attains finished grade.
- I. Remove and properly dispose of unsuitable/unsatisfactory and excess material from the site.
- J. Nuisance or localized ponding shall not be accepted at any location on the site and shall be corrected by the Contractor to provide positive drainage at no additional cost to the Owner.

3.02 PROTECTION OF UNDERGROUND FACILITIES

- A. Approximate locations of existing underground facilities at the site are indicated on the Drawings based on information available to the Engineer. Engineer and Owner do not take responsibility for the accuracy of the information.
- B. Prior to beginning any excavation work or boring, the Contractor shall, through field investigations, determine any conflicts or interferences between existing utilities and new utilities to be constructed for this project. This determination shall be based on the actual locations, elevations, slopes, etc., of existing utilities as determined in the field investigations, and locations, elevation, slope, etc. of new utilities as shown on the Drawings. If an interference exists, the Contractor shall bring it to the attention of the Engineer as soon as possible. If the Engineer agrees that an interference exists that was not apparent from the Contract Documents, or could not have been identified during a site visit during bidding, Engineer shall modify the design as required. Additional costs to the Contractor for this change shall be processed through a Change Order as detailed elsewhere in these Contract Documents. An interference shall be defined for these purposes as a conflict with an existing utility or structure that prevents the proposed utility from being installed where shown or specified after existing utilities and structures are adequately supported by the Contractor. In the event the Contractor fails to complete adequate field evaluations to identify conflicts, or bring a potential conflict or interference to the attention of the Engineer prior to beginning excavation work, any actual conflict or interference which does arise during the Project and could have been avoided with diligent utility location efforts shall be corrected by the

Contractor, as directed by the Engineer, at no additional expense to the Owner. Repair damage to existing facilities at no additional cost to the Owner.

- C. 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.

3.03 WATER CONTROL (DEWATERING)

- A. Inspect the site prior to mobilizing to determine the appropriate equipment for site grading and foundation work.
- B. Perform work to prevent surface water from accumulating in excavations, tunnels and unfinished fill areas. Perform grading and excavation so the work area and affected operations shall be continually and effectively drained.
- C. Install a dewatering system prior to excavating beneath the ground water table. Maintain the water table approximately 2 feet below the bottom of the excavation.
- D. Contractor shall not be paid for undercut due to inadequate water control. Undercut will not be authorized until groundwater is 2 feet below the bottom of the excavation.
- E. Maintain dewatering until backfilling has proceeded above the natural ground water level and the structural weight is sufficient to prevent "floating" of the structure. Provide a job superintendent experienced in dewatering work.
- F. Water from dewatering operations must be disposed of in accordance with the North Carolina Sedimentation Pollution Control Act.

3.04 ROCK EXCAVATION

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

3.05 USE OF EXPLOSIVES

- A. Refer to Section 31 23 34, Trenching for Storm Drainage, for requirements associated with use of explosives.

3.06 TOPSOIL

- A. Where indicated on the Drawings or in areas where excavation and/or backfill is required to construct improvements, strip topsoil from areas to be disturbed to a depth of 8 inches or greater and stockpile separate from other excavated material or dispose of offsite, as directed by the Engineer. Remove unsuitable material such as clay lumps, brush, litter, roots, stones for inches and larger, and other foreign materials from stockpiled topsoil. 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 32 92 00, Lawns and Grasses. If topsoil cannot be stockpiled onsite, stripped topsoil shall be properly disposed of offsite and new offsite topsoil may be placed as indicated in the bid.

3.07 SITE GRADING

- A. Proof roll 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.

- B. Perform undercutting of unsuitable soils with appropriate equipment defined in soils report or approved by Engineer. Backfill undercut areas immediately with satisfactory material approved by the Engineer.
- C. 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.
- D. 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 buildings.
- E. Excavate rock encountered in cut sections to a depth of 6 inches below finished subgrade and backfill with satisfactory material.
- F. 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.
- G. Plow or bench existing ground surfaces steeper than one to four (vertical to 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.
- H. Soils used for fill and backfill shall be satisfactory soils classified SP, SM, or SW as shown in soils report in accordance with ASTM D2487. Dry or wet soil as necessary to maintain optimum moisture.
- I. Place backfill and fill material in accordance with the following minimum standards (if specified otherwise elsewhere, the more restrictive requirements shall apply):
 - 1. Maximum uniform loose lifts: 8 inches
 - 2. Optimum moisture content: 11 - 14 percent
 - 3. Percent compaction at optimum moisture content:
 - a. From ex. grade to within one (1) foot of structural subgrade: 95
 - b. Final foot to subgrade under floor slabs and pavements: 98
 - c. Under sidewalks: 90
 - d. Grassy Areas: 85
- J. Approved compacted subgrade that is disturbed by construction or adverse weather shall be scarified and re-compacted as specified previously at no additional cost to the Owner. Re-compaction over utilities shall be by hand tamping at no additional cost to the Owner.

3.08 FILL AND BACKFILL

- A. Place and compact fill and backfill material adjacent to structures lifts as defined above 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.

3.09 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 or the Engineer's designee. Notify Engineer as to the site selected for inspection and approval prior to transporting borrow material to the site.
- B. Obtain erosion and sediment 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.

3.10 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.

3.11 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 and sediment control permit as necessary for disposal site(s).

3.12 SOIL TESTING

- A. Proof rolling
 - 1. The Contractor shall provide heavy pneumatic tired compaction equipment or fully loaded tandem dump truck to test the road subgrade for stability and uniformity of compaction. The weight of proof rolling equipment shall not be less than 28 tons.
 - 2. Weight tickets signed by a licensed public weighmaster shall be provided to the Engineer for verification of the weight of the equipment to be used for proof rolling.
 - 3. The Engineer shall have sole discretion to approve or deny requests by the Contractor to substitute other types of equipment.
 - 4. The Contractor shall not be permitted to drive the loaded dump truck over existing structures or curbing. The Contractor shall use rubber tired or other types of tractive equipment for operation on the roadbed. The Contractor shall protect all structural facilities within the project area, such as, but not limited to, bridges, box culverts, pipe culverts and utilities. Damage resulting from proof rolling equipment shall be repaired by Contractor at no cost to the Owner.
 - 5. Proof rolling is to be done when the roadbed is within plus or minus 0.5 foot of finished grade and the roadbed shall be rolled for a width located between points 2 feet outside the proposed edges of pavement including shoulder pavement.
 - 6. A coverage is considered to be that stage in the rolling procedure when the entire area to be proof rolled has been in contact with the pneumatic tires of the roller or loaded dump truck. One complete coverage shall be made with additional coverage as required when failure is suspected. Areas which have failed and been repaired shall be given a complete coverage after repair has been completed.
 - 7. Equipment shall be operated at a speed between 225 ft/min and 300 ft/min.
 - 8. The Engineer shall follow (walking is preferable) a short distance behind the proof roller observing the action of the roadbed produced immediately behind the tires of the roller. When the roadbed material compresses and remains compressed,

the roadbed is satisfactory. When the roadbed material compresses and then rebounds to any appreciable extent, further testing and investigation shall be made. Horizontal slippage or crust breakage is not considered as failure. Any slippage or breakage shall be repaired.

9. The Engineer shall take immediate steps to determine the cause of any failure observed. Failures are usually due to the necessity for underdrains, unsuitable materials or excessively wet materials. These conditions may be found to be as much as 6 feet below the roadbed surface. Assistance in determining corrective action required, when needed, may be obtained from the Engineer.
 10. Should it be determined that the failure is due to negligence or weather, the Owner and/or Engineer shall so inform the Contractor, verbally and in writing and shall document all work (including equipment, personnel and time) necessary for correction of the area.
- B. The testing laboratory soil specialist, as a minimum, shall be at the project site, upon request of the Owner, to perform the following:
1. Monitor proof rolling 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.

END OF SECTION

SECTION 31 11 00
CLEARING, GRUBBING, AND SELECTIVE TREE REMOVAL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Perform clearing and grubbing and remove selected trees as identified on the Drawings. Work shall include, but not be limited, to the following:
 - 1. Clearing and grubbing.
 - 2. Removal of surface debris.
 - 3. Selective tree removal.

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 01 35 13 Specific Project Requirements
 - 2. Section 31 25 00 Sediment and Erosion Control
 - 3. Section 32 92 00 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 erosion control devices in accordance with the approved erosion control plan and as may become necessary due to actual site conditions.

1.04 FIELD CONDITIONS

- A. The Contract Documents reflect knowledge of conditions at the time of field survey.
- B. Prior to initiating work, the Contractor shall field verify all location and sizes of existing trees greater than 6 inches in diameter and designated for removal on the Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROTECTION

- A. Prior to beginning any clearing, grubbing, or tree removal, the Contractor shall clearly stake clearing limits and tree protection areas and shall mark individual trees selected for removal. The Contractor shall contact the Owner for field review and shall not begin any activities until the Owner has approved.
- B. 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 damage by equipment with a tree dressing.

- C. Locate and protect property corners and survey control monuments and stakes prior to start of clearing operations. Disturbed property corners or survey control monuments shall be surveyed and reset by a Professional Land Surveyor licensed in the State of North Carolina. The Contractor shall be responsible for the cost to survey and reset.
- D. Provide temporary gates and fences as necessary to prevent unauthorized vehicular access to the site.
- E. Mark clearing limits (e.g., flag right-of-way, easements, etc.).
- F. Provide tree protection fencing at the outer edge of easements and rights-of-way as indicated on the Drawings or as directed by the Engineer/Owner. Tree protection fencing along easements and rights-of-way shall be placed around individual vegetation or groupings of vegetation (e.g., large tree, flower bushes, etc.), and along entire easement (both sides) where clearing through woods. Tree protection fencing shall also be provided where vegetation, within easement and rights-of-way, is indicated as not to be disturbed on Drawings. Where silt fence is provided, it may serve as tree protection fencing if indicated as combination fencing on the drawings. The fencing shall be as detailed on the drawings. Erection of tree protection fencing shall precede all other site activities.
- G. Refer to paragraph 5.05 of the General Conditions and as modified by 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 the width shown on the Drawings plus 5-foot shoulders on each side. Contractor shall flag the clearing limits on access roads for the Engineer and Owner to review in the field prior to clearing.
- C. Access roads shall have the following:
 - 1. Provide "Temporary Construction Entrance" per the standard detail on the Drawings at connection to State Roads or other roads as shown on the Drawings.
 - 2. 6 inches of ABC stone unless shown otherwise on the Drawings.
 - 3. Provide temporary seeding of shoulders as access drives are installed.
 - 4. Provide storm pipes under drives at points of concentrated water flow.
 - 5. Tire wash rack at locations and as detailed on the Drawings.
- 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. Access roads and staging area materials as described above and as shown on the Drawings will be paid for under the individual constituent items within the bid form.
- F. Allow reasonable use of access drive by other Contractors, Owner, Engineer, and others authorized to be on the site by the Owner.
- G. 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 SEDIMENT AND EROSION CONTROL DEVICES

- A. Clear areas required to install devices, which shall be in place and operational prior to other land disturbing activity. Install devices in accordance with Section 31 25 00, Sediment and Erosion Control.

3.04 STAGING, BORROW, AND DISPOSAL AREAS

- A. Obtain and pay for erosion control permit for staging, borrow, and disposal areas as required by Contractor and not already permitted by Owner.
- B. Install and maintain erosion control devices in accordance with Contractor's approved plan.

3.05 CLEARING AND GRUBBING

- A. Clear and grub the total width of permanent easement and right-of-way unless indicated otherwise on the Drawings. Clear and grub within temporary construction easement only as necessary for construction. Avoid disturbance to vegetation in temporary construction easements where possible, and as noted on the Drawings.
- B. Clearing shall consist of cutting, grinding 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. For areas outside of the right of way and outside of residential yards, grinding of stumps and roots in place is acceptable.
- 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.
- H. All material from clearing and grubbing shall be maintained within designated limits of disturbance/construction in accordance with the approved Erosion Control Plan until such material is removed and taken offsite for disposal or another use.

3.06 SELECTIVE TREE REMOVAL

- A. Contractor shall provide selective tree removal for trees individually identified on the Drawings for removal. Other trees within the disturbance limits not individually identified for removal, or trees less than 6" in diameter, shall be considered general clearing and grubbing and will not be measured or paid for separately.
- B. Contractor's method of tree removal shall avoid land disturbances outside the limits of disturbance shown on the Drawings.
- C. No trees are to be removed within the tree protection fencing limits or outside the limits of disturbance as shown of the Drawings.

- D. The Contractor shall grind stumps a minimum of 12 inches below grade. All protuberant surface and subsurface roots beyond the stump area, noticeable from visible inspection shall be removed to a depth of 12 inches below grade. The remaining stump grindings shall be left in uniformly graded pile within the limits of the stump grinding.
- E. Fill required to bring the tree site grade up to adjacent existing ground elevations shall meet the satisfactory materials requirements of Section 31 05 00, Earthwork, and shall be considered incidental to stump and tree removal.
- F. Contractor shall provide covered passageways where necessary to ensure safe passage of residents in or near areas of work.
- G. Contractor shall provide substantial barricades and safety lights as required.
- H. Remove materials in a manner that protects adjacent trees, shrubs or other types of vegetation that are to remain growing, and also prevent damage to adjacent property. Remove broken branches and rough edges of scarred trees or shrubs. Shape and make smooth these areas in accordance with generally accepted horticultural practice.
- I. At the direction of the Engineer, cut and dispose of any plants that are damaged beyond their value and seed and mulch vegetation that is damaged by the Contractor at no cost to the owner.
- J. Remove debris, rubbish and materials resulting from cutting or grinding operations.
- K. Transport tree and root materials and legally dispose of offsite.

END OF SECTION

SECTION 32 01 30
RESTORATION OF IMPROVEMENTS

PART 1 GENERAL

1.01 STRUCTURES

- A. The Contractor shall take all precautions necessary to protect the integrity, usefulness and maintain public access to existing facilities. If necessary, the Contractor may, with the approval of the Owner, remove such existing structures, including curbs, gutters, pipes as may be necessary for the performance of the work, and shall rebuild the structures thus removed in as good a condition as found with the requirements specified. Contractor shall also repair existing structures which may be damaged as a result of the work under this Contract.

1.02 ROADS AND STREETS

- A. Unless otherwise specified, roads and streets in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the work under this Contract, shall be resurfaced and brought to the original grade and section by the Contractor. Roadways used by the Contractor shall be cleaned and repaired. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. All paved surfaces shall be cut with a pavement saw. Rough cuts are not allowed. Repair work shall conform to the Drawings, Section 02 40 00, Demolition and Salvage, and Section 32 10 00, Pavement and Appurtenances.
- B. The Contractor shall restore all paved areas with temporary pavement (gravel or cold patch asphalt) within 48 hours of removal from service, or provide steel plates to provide access to traffic. The Contractor shall notify the Engineer 2 weeks prior to cutting any paved surface.
- C. There will be no separate measurement and payment for repair of damage to roads and streets. Repair shall be completed by the Contractor at no additional cost to the Owner.

1.03 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

- A. Cultivated or planted areas, hardscape, and other surface improvements which are damaged by actions of the Contractor shall be restored as nearly as possible to their original condition. Restoration shall take place prior to substantial completion or as directed by the Engineer.
- B. Existing guard posts, barricades, signs, lamp posts/fixtures, and mailboxes shall be protected and replaced if damaged. Existing signs and mailboxes that are impacted by the Work shall be removed, stored, and reset. Contractor shall provide temporary location and installation for mailboxes which will be displaced for more than one (1) day.
- C. There will be no separate measurement and payment for repair of damage to these items. Repair shall be completed by the Contractor at no additional cost to the Owner.

1.04 BELOW GRADE IMPROVEMENTS

- A. Landscaping lighting, underground pet fencing, and irrigation systems shall be protected from damage. The Contractor shall coordinate with individual property owners to locate and avoid damaging these items, or shall replace in kind if damage is unavoidable.
- B. There will be no separate measurement and payment for repair of damage to these items. Repair shall be completed by the Contractor at no additional cost to the Owner.

1.05 REMOVE, STORE, AND RESET FENCE

- A. Where indicated on the Drawings, Contractor shall remove and securely store existing fence for the duration of construction.
- B. Fence components shall be removed from storage upon completion of construction and shall be installed in the location specified on the Drawings, or the preconstruction location if no location is specified on the Drawings, using the same installation procedures as a new fence. Installation procedures shall be based on the Specifications for new fencing of the same type, or manufacturer recommendations.

1.06 PROTECTION OF EXISTING INSTALLATIONS

- A. The Contractor shall protect all existing operating facilities and structures from damages. If damage occurs, the Contractor shall immediately correct or replace existing equipment, controls, systems, structures, or facilities which are damaged in any way as a result of his operations.
- B. There will be no separate measurement and payment for repair of damage to these items. Repair shall be completed by the Contractor at no additional cost to the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 32 10 00
PAVEMENT AND APPURTENANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide pavement, curb and gutter, and sidewalk sections as indicated on the Drawings and specified herein. Construction shall conform with the lines, grades, thickness, and typical cross-section indicated on the Drawings.

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 01 35 13 Specific Project Requirements
 - 2. Section 31 05 00 Earthwork
 - 3. Section 31 23 34 Trenching for Storm Drainage

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 - Specifications for Roads and Structures (NCDOT).
- B. Paragraphs in the NCDOT Standard Specifications regarding measurement and payment do not apply to this Project.

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00, Submittal Procedures:
 - 1. Certificates of Compliance: Certificates shall attest that supplied products conform to the referenced standard and this specification, that all tests set forth in each applicable referenced publication have been performed, and that all test requirements have been met. Submit for each of the following materials:
 - a. Asphalt Concrete
 - b. Aggregate Base Course
 - c. Paint
 - 2. Mix design or gradation for concrete, asphalt, aggregates, and stones to be used for any item included herein.

1.05 PROTECTION OF EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK

- A. Contractor, Owner, and Engineer shall inspect existing pavement, curb and gutter, and sidewalks for the entire site prior to the start of construction and mark existing damaged areas and note areas on Contractor's plan set to be used for the Record Drawings.
- B. Protect existing pavement, curb and gutter, and sidewalks during construction.
- C. Remove areas of existing curb and gutter, and sidewalks damaged during construction. Removal shall include to the nearest existing joint. Replace damaged areas with new curb and gutter, and sidewalks to match the existing section.

- D. Remove areas of existing pavement damaged during construction. New pavement patch shall consist of re-stabilizing the subgrade, and providing subgrade, intermediate course, and surface course material and thickness as shown on Raleigh's Standard Asphalt Pavement Patch Detail.
- E. Repair damage to existing pavement, curb and gutter, and sidewalks.

PART 2 PRODUCTS

2.01 MATERIALS AND MIXES

- A. Asphalt Concrete Base Course - Type B-25.0B: Conforming to materials and compositions required in NCDOT Section 610, Asphalt Concrete Plant Mix Pavements.
- B. Tack Coat: Conforming to materials and compositions required in NCDOT Section 605, Asphalt Tack Coat.
- C. Asphalt Concrete Surface Course - Type SF9.5A: Conforming to materials and composition required in NCDOT Section 610, Asphalt Concrete Plant Mix Pavements.
- D. Concrete for Curb and Gutter and Sidewalks: Use Class Portland Cement Concrete, Class A, as specified in NCDOT Table 1000-1. Other materials and installation shall comply with:
 - 1. NCDOT Section 846 - Concrete Curb, Curb and Gutter, Concrete Gutter, Shoulder Berm Gutter, Concrete Expressway Gutter, and Concrete Valley Gutter.
 - 2. Section 848 - Concrete Sidewalks, Driveways, and Curb Ramps.
- E. Base Course: Aggregate base course shall comply with requirements of NCDOT Section 520, Aggregate Base Course.
- F. Concrete Driveways: Use Class Portland Cement Concrete, Class A, as specified in NCDOT Table 1000-1. Driveway repair or replacement shall include 6x6-W1.4xW1.4 welded wire fabric reinforcement embedded within the concrete.
- G. Pavement Markings and Symbols: Conforming to materials and composition required in NCDOT Section 1205, Pavement Marking General Requirements.

PART 3 EXECUTION

3.01 PREPARATION OF SUBGRADE

- A. Refer to applicable portions of Section 31 05 00, Earthwork.
- B. Compaction shall be to at least 95 percent maximum density Standard Proctor Method.
- C. Remove unsuitable material to a depth of one foot and replace with an approved material. Loosen exceptionally hard spots and re-compact. Finish subgrade to provide uniform bearing surface. Proof rolling shall be performed as specified in Section 31 05 00, Earthwork.
- D. Maintain subgrade in satisfactory condition and properly drain until surface courses are placed.
- E. Preparation, shaping, and compaction shall be in accordance with NCDOT Section 500, Fine Grading Subgrade, Shoulders, and Ditches.

3.02 AGGREGATE BASE COURSE

- A. This applies to the aggregate base course as indicated on the Drawings for paved and unpaved roads.
- B. The stone base shall be constructed in accordance with the applicable paragraphs of NCDOT Section 520.
- C. Compacted base shall be of the thickness indicated on the Drawings.

3.03 ASPHALT CONCRETE BASE COURSE

- A. Spreading, compaction, and finishing shall comply with the requirements of NCDOT Section 610, Asphalt Concrete Plant Mix Pavements.
- B. Compacted thickness shall be no less than the thickness indicated on the Drawings.

3.04 ASPHALT CONCRETE SURFACE COURSE

- A. Spreading, compaction, and finishing shall comply with the requirements of NCDOT Section 610, Asphalt Concrete Plant Mix Pavements.
- B. Compacted thickness shall be as indicated on the drawings.

3.05 TACK COAT

- A. Application rates, method of application, and curing shall be in accordance with the requirements of NCDOT Section 605, Asphalt Tack Coat.

3.06 CONCRETE CURB AND GUTTER / VALLEY TYPE GUTTER

- A. Provide concrete curb and gutter and/or valley type gutter where indicated on the Drawings. Curb and gutter and/or valley type gutter shall conform to the section indicated on the Drawings.
- B. Construct curb and gutter and/or valley type gutter in accordance with NCDOT Section 846 (except use Portland Cement Concrete Class A) for new curb and gutter and match existing curb and gutter cross-sections when replacing.

3.07 CONCRETE DITCHES

- A. Provide concrete ditches where indicated on the Drawings. Cross section shall be as indicated on the Drawings.
- B. Construct ditches in accordance with NCDOT Section 850, Concrete Paved Ditch for new paved ditches, flumes or troughs and match existing cross sections of ditches, flumes or troughs when replacing.

3.08 CONCRETE SIDEWALKS

- A. Provide concrete sidewalks where indicated on the Drawings. Construction shall be in conformity with the materials, lines, grades, thickness, and typical section as indicated on the Drawings.
- B. Construct sidewalks based on the Drawings and in accordance with NCDOT, Section 848 (except use Portland Cement Concrete Class A) for new sidewalks and match existing sidewalk cross sections when replacing.
- C. Space contraction joints equal to the width or as shown on the Drawings.
- D. Place a 1/2-inch wide expansion joint at all intersections and wherever walks abut structures and other walks.

- E. Place additional expansion joints at each fifth contraction joint.
- F. Walks shall receive a light broom finish.

3.09 CONCRETE DRIVEWAYS

- A. The minimum concrete thickness for repair or replacement of concrete driveways shall be 6".
- B. Expansion joints shall be placed in the joint between the old and new concrete.
- C. Saw joint shall be placed as designated on the Drawings or as approved by the Engineer.
- D. Any driveway affected by construction shall be repaired in sections, rather than patched, in a manner consistent with the original construction of the driveway. The original driveway shall be cut back to a straight vertical transverse joint or to an existing joint as approved by the Engineer. New driveways will be placed to the edge of the road and as shown on the Drawings.

3.10 PAVEMENT MARKINGS AND SYMBOLS

- A. Mark parking spaces in paved areas with 4 inch white paint stripe the length of the parking space.
- B. Stripe roads maintained by the NCDOT or the local municipality in accordance with the agency requirements.
- C. Provide painted pavement symbols as indicated on the Drawings and in accordance with NCDOT Standards.

END OF SECTION

SECTION 32 31 13
FENCING
(CHAIN LINK)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide chain link fencing where indicated on the Drawings and specified herein.
- B. Work shall include, but not be limited to, the following major items and necessary accessories for a complete and operational system:
 - 1. Clearing as necessary for installation of fence.
 - 2. Fence post, frame, and concrete foundation.
 - 3. Chain link fabric.
 - 4. Gates.

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 01 35 13 Specific Project Requirements

1.03 SYSTEM DESCRIPTION

- A. Fence Height: 4-feet
- B. Provide posts, bottom intermediate and top rails as indicated. Provide corner and brace assemblies.
- C. Provide fabric gauges as indicated and install fabric on outside of fence and anchor to framework such that fabric remains in tension after pulling force is released.

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00, Submittal Procedures:
 - 1. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following. Equipment to be furnished for the Project shall be clearly indicated including all options to be provided.
 - a. Individual components of the fencing system.
 - 2. Shop Drawings: Submit Project specific shop drawings for the following:
 - a. Layout drawing showing spacing of posts and location of gate, corner, end, and pull posts.
 - 3. Manufacturer's Installation Procedures.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an installer who has at least three years' experience and has completed at least five chain link fence projects with the same material and of similar scope to that indicated for this project with a successful construction record of in-service performance.

PART 2 PRODUCTS

2.01 FABRIC

- A. Selvage: Fabric shall be twisted and barbed at both selvages. Bottom tension wire shall be 7 gauge and shall terminate at posts.
- B. Galvanized Steel Chain-Link Fence Fabric: Fabricated in one-piece widths for fencing 12 feet and less in height to comply with Chain Link Fence Manufactures Institute (CLFMI) "Product Manual" and with requirements indicated below:
 - 1. Mesh and Wire Size: 2-inch mesh, 0.148-inch diameter (9 gauge-coated size).
 - 2. Coating: ASTM A 392-74, Class 2, galvanized.

2.02 FRAMING

- A. Round member sizes are given in actual outside diameter (OD) to the nearest thousandth of inches. Round fence posts are often referred to in ASTM standard specifications by nominal pipe sizes (NPS) or the equivalent trade sized inches. The following indicates these equivalents all measured in inches:

Actual OD Size (in)	NPS Size	Trade
1.660	1 1/4	1 5/8
1.900	1 1/2	2
2.375	2	2 1/2
2.875	2 1/2	3
4.000	3 1/2	4

- B. Type I Round Posts: Standard weight (schedule 40) galvanized-steel pipe conforming to ASTM F 1083, according to heavy industrial requirements of ASTM F 1043. Group IA, with minimum yield strength of 25,000 psi, not less than 1.8 oz. of zinc per square foot. Type coating inside and outside according to ASTM F 1043, as determined by ASTM A 90, and weights per foot as follows:

Actual OD Size (in)	Weight (lb/ft)	NPS Size (in.)
1.660	2.27	1 1/4
1.900	2.72	1 1/2
2.375	3.65	2
2.875	5.79	2 1/2
4.000	9.11	3 1/2

- C. Top Rail: Manufacturer's longest lengths (21 feet) with approximately 6-inch long, expansion-type coupling, for joining. Provide rail ends or other means for attaching top rail securely to each gate, corner, pull, and end post.
 - 1. Round Steel: 1.660-inch OD Type.
- D. Steel posts (round) for fabric heights up to 6 feet:
 - 1. Line or Intermediate Posts: 2.375-inch OD Type I steel pipe.
 - 2. End, Corner, and Pull Posts: 2.875-inch OD Type I steel pipe.
- E. Steel posts (round) for fabric heights over 6 feet:
 - 1. Line or Intermediate Posts: 2.375-inch OD Type I steel pipe.
 - 2. End, Corner, and Pull Posts: 2.875-inch OD Type I steel pipe.

- F. Swing Gate Posts: Furnish post to support single gate leaf, or one leaf of a double-gate installation, according to ASTM F 900, sized as follows.
 - 1. Steel posts for fabric height of 8 feet or less and gate leaf width:
 - a. Up to and including 4 feet: 2.875-inch OD pipe weighing at least 5.79 lb per feet.
 - b. Over 4 to 10 feet: 4.000-inch OD pipe weighing at least 9.11 lb per ft.

2.03 FITTINGS AND ACCESSORIES

- A. Material: Comply with ASTM F 626. Galvanized iron or steel to suit manufacturer's standards.
 - 1. Steel and Iron: Unless specified otherwise, hot-dip galvanize steel or cast-iron fence fittings and accessories with at least 1.2 oz. zinc per sq. ft. as determined by ASTM A 90.
- B. Post and Line Caps: Provide weather-tight closure cap for each post. Provide line post caps with loop to receive top rail.
- C. Anchor Bolts:
- D. Post Brace Assembly: Manufacturer's standard adjustable brace. Use material specified below for brace, and truss to line posts with 3/8-inch-diameter rod and adjustable tightener. Provide manufacturer's standard galvanized-steel, cast iron or cast-aluminum cap for each end.
 - 1. Round Steel: 1.6600-inch OD Type I steel pipe.
- E. Bottom and Center Rail: (Where indicated on drawings). Same material as top rail unless indicated otherwise. Provide manufacturer's standard galvanized-steel, cast-iron or cast-aluminum cap for each end.
- F. Tension or Stretcher Bars: Hot-dip galvanized steel with a minimum length 2 inches less than the full height of fabric, a minimum cross section of 3/16 inch by 3/4, and a minimum of 1.2 oz of zinc coating per sq. ft. Provide one bar for each gate and end post, and two for each corner and pull post, except where fabric is integrally woven into the post.
- G. Tension and Brace Bands: 3/4 -inch-wide minimum hot-dip galvanized steel with a minimum of 1.2 oz. of zinc coating per sq. ft.
 - 1. Tension Bands: 0.074-inch thick (14 gauge) minimum.
 - 2. Brace Bands: 0.105 inch thick (gauge) minimum
- H. Tension Wire: 0.177-inch-diameter metallic-coated steel marcelled tension wire conforming to ASTM A 824 with finish to match fabric.
 - 1. Coating Type II zinc in the following class as determined by ASTM A 90.
 - a. Class 2, with a minimum coating weight of 1.20 oz. per sq. ft. of uncoated wire surface.
- I. Tie Wire: (9-gauge) aluminum wire alloy 1350-H19 or equal.

2.04 CONCRETE

- A. Concrete: Provide concrete consisting of Portland cement per ASTM C150, aggregates per ASTM C 33, and potable water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 3000 psi. Use at least four sacks of cement per cu. yd., 1-inch maximum size aggregate, 3-inch maximum slump.

- B. Package Concrete Mix: Mix dry-packaged normal-weight concrete conforming to ASTM C 94 with clean water to obtain a 2- to 3-inch slump.

2.05 GATES

- A. General: Fabricate perimeter frames of gates from same material and finish as fence framework. Assemble gate frames by welding. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members a maximum of 8 feet apart unless otherwise indicated.
 - 1. Fabric: Same as for fence unless otherwise indicated. Secure fabric at vertical edges with tension bars and bands and to top and bottom of frame with tie wires.
 - 2. Bracing: Install an adjustable truss rod diagonally on gates six foot wide and greater to prevent sagging.
- B. Swing Gates: Comply with ASTM F 900.
 - 1. Framework: Fabricate using 1.660-inch minimum OD Type I steel pipe or 1-inch-square galvanized steel tubing weighing 1.84 lb per sq. ft.
 - 2. Gate Hardware: Provide galvanized hardware and accessories for each gate according to the following:
 - a. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180 degree gate opening.
 - b. Latch: Forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as an integral part of latch.
 - c. Keeper: Provide a keeper for vehicle gates that automatically engages gate leaf and holds it in the open position until manually released.
 - d. Gate stops: Provide gate stops for double gates consisting of mushroom-type flush plate with anchors, set in concrete, and designed to engage a center drop rod or plunger bar. Include a locking device and padlock eyes as an integral part of the latch, permitting both gate leaves to be locked with a single padlock.

PART 3 EXECUTION

3.01 INSTALLATION

- A. General: Install fence to comply with ASTM F 567. Do not begin installation and erection before final grading is completed, unless otherwise permitted.
- B. Excavation: Drill or hand-excavate (using post-hole digger) holes for posts to diameter and spacings indicated, in firm, undisturbed or compacted soil.
 - 1. If not indicated on Drawings, excavate holes for each post to minimum diameter recommended by fence manufacturer, but not less than four times the largest cross section of post.
 - 2. Unless otherwise indicated, excavate hole depths approximately 3 inches lower than post bottom, with bottom of posts set not less than 36 inches below finish grade surface.
- C. Setting Posts: Center and align posts in holes 3 inches above bottom of excavation. Space a maximum of 10 feet o.c., unless otherwise indicated.
 - 1. Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and hold in position during placement and finishing operations.

- a. Pour concrete footings to a level 2" below finished grade and cover with fresh earth from excavation.
- D. Top Rails: Run rail continuously through line post caps, bending to radius for curved runs and at other posts terminating into rail end attached to posts or post caps fabricated to receive rail. Provide expansion couplings as recommended by fencing manufacturer.
- E. Center Rails: Install center rails in one piece between posts and flush with post on fabric side, using rail ends and special offset fittings where indicated.
- F. Brace Assemblies: Install braces at end and gateposts and at both sides of corner and pull posts. Locate horizontal braces at midheight of fabric. Install so posts are plumb when diagonal rod is under proper tension.
- G. Bottom Tension Wire: Install tension wire within 6 inches of bottom of fabric before stretching fabric and tie to each post with not less than same gage and type of wire. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch-diameter (11-gage) hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c.
- H. Fabric: Pull fabric taut and tie to post, rails, and tension wires.
- I. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and Gateposts with tension bands spaced not over 15 inches o.c.
- J. Tie Wires: Use wire of proper length to secure fabric firmly to posts and rails. Bend ends of wire to minimize hazard to persons or clothing.
 - 1. Maximum Spacing: Tie fabric to line posts 12 inches o.c. and to rails and braces 24 inches o.c.
- K. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.
- L. Netting Ties: Fasten safety netting to tension cable and fence top rail with cable ties at 12" o.c.
- M. Barbed Wire: Install three parallel wires on each extension arm on security side of fence, unless otherwise indicated. Pull wires taut.
- N. Gates: Install gates plumb, level and secure for full opening without interference. Install ground set items in concrete for anchorage as recommended by the manufacturer.

END OF SECTION

SECTION 32 92 00
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. Sodding.
 - 6. Hydroseeding
 - 7. Maintenance to produce a permanent stand of grass.

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 01 35 13 Specific Project Requirements
 - 2. Section 31 05 00 Earthwork
 - 3. Section 31 11 00 Clearing and Grubbing, and Selective Tree Removal
 - 4. Section 31 23 34 Trenching for Storm Drainage

1.03 REFERENCES

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

1.04 PERFORMANCE REQUIREMENT

- A. Seeded 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.
- C. Sodded grassed areas shall maintain a vigorous stand of turf, free of weeds, disease, pests, or any dead areas more than one half of a square foot in size. Total dead area shall not exceed 1% of total square footage for each individual resident's lawn.

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
- B. Product Data: Submit product data for seed mix, fertilizer, mulch, sod grass species, type of rolling and tamping equipment, and other accessories. Include installation instructions.

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.
- C. Sod shall be delivered to the job site within 24 hours after being cut and shall be installed within 24 hours after delivery. Any sod which is torn, broken or too dry will be rejected.
- D. Store sod in the shade, and keep watered particularly in extreme hot and dry condition to insure vitality and to prevent the dropping off of soil during handling.

1.08 MAINTENANCE

- A. Maintain seeded and sodded 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 minimum height of 1-1/2 inches and 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 or sodded at such intervals as to maintain the seeded or sodded 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. The Contractor shall not use private resident's water.
- D. The Contractor is solely responsible to provide watering of the seeded and sodded areas. Watering shall be limited to early morning or late afternoon.

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, stones larger than 1 inch, 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.

Determine and match existing grass type in residential lawns.

Provide the following seed mixtures with lime and fertilizer in disturbed areas including City and NCDOT Rights-of-Way:

1. Permanent Seeding (Maximum slope 3:1)

Planting Dates	Grass Type	Pounds/Acre
Aug. 15 - Nov. 1	Tall Fescue	300
Nov. 1 -Mar. 1	Tall Fescue & Abruzzi Rye	300 25
Mar. 1 - Apr. 15	Tall Fescue	300
Apr. 15 - Jun. 30	Hulled Common Bermudagrass	25
Jul. 1 - Aug. 15**	Tall Fescue & Browntop Millet & Sorghum-Sudan Hybrids	120 35 30
Lime		4,000
Fertilizer	10-10-10	1,000
Mulch	Straw	4,000

**Temporary seeding, reseed according to optimum season for permanent seeding.

2. Permanent Seeding (Slopes from 3:1 to 2:1)

Planting Dates	Grass Type	Pounds/Acre
Mar 1 - June 1	Sericea Lespedeza	50
Mar. 1 - Apr. 15	& Add Tall Fescue	120
Mar. 1 - Jun. 30	or Add Weeping Lovegrass	10
Mar. 1 - Jun. 30	or Add Hulled Common Bermudagrass	25
Jun. 1 - Sept. 1**	Tall Fescue & Browntop Millet & Sorghum-Sudan Hybrids	125 30 35
Sept. 1 - Mar. 1	Sericea Lespedeza (unhulled-unscarified)	70
Nov. 1 - Mar. 1	& Tall Fescue & Add Abruzzi Rye	120 25

Lime		4,000
Fertilizer	10-10-10	1,000
Mulch	Straw	4,000

**Temporary seeding, reseed according to optimum season for permanent seeding.

3. The Contractor shall provide seeding and follow fertilizing methods as required by the U.S. Army Corps of Engineers to reestablish disturbed areas in designated wetlands.
- E. Sod: Sod placed for each individual's lawn shall be the same species of sod as the existing grass species. Sod shall contain 95 percent permanent grass; not more than 5 percent weeds and undesirable grasses, good texture and free from noxious grasses, roots, stones and foreign materials. Sod shall be uniformly 1 1/2 to 2 inches thick with a well-developed fibrous root mat system in topsoil with clean cut edges. The sod shall be sufficiently dense and cut to the minimum required thickness such that if one corner suspends the sod, the sod will not tear apart. The sod shall be recently mowed to a height of not more than 3 inches prior to harvest. The sod shall be supplied and maintained in a healthy condition as evidenced by the grass being a normal green color in appearance, dense, and free from insects, pests, disease or injury.
 - F. Matting / Erosion Control Fabric (ECF): Matting and ECF shall be a 100% straw mulch fabric encased in a medium weight, no plastic matting (both sides) with a minimum permissible shear stress of 1.75 lbs/ft². Matting shall be fully biodegradable but suitable until vegetation has been established. Installation of ECF shall be done with staples per temporary liner detail in the Drawings. Commercially available ECFs may be used upon approval of the engineer. Approval of fabrics will require manufacturer's design data regarding velocity, shear strength, ditch slopes, method of installation, decay cycle, repair techniques, and grass growth enhancement characteristics.
 - G. Wire Staples: 16-gauge steel wire, with minimum of 3" top and 4" long legs.
 - H. 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.
 - I. Water: Water shall be free from substances harmful to growth of grass.
 - J. Hydroseeding: A tank-mounted truck equipped with a special pump and continuous agitation system shall be used. Hydroseeding mixture shall include wood fiber, tackifier, fertilizer, and seeds. Coated seed shall be loaded last. Legume seeds shall be pellet inoculated with a special bacteria to stimulate the fixing of nitrogen.

PART 3 EXECUTION

3.01 PREPARATION OF SUBSOIL

- A. 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.
- B. Complete operations in the area to be sodded and prepare the subsoil to eliminate uneven areas and low spots. Bring surface to design contours, less the thickness of

the sod, such that the top of sod equals the finished grade shown on the Drawings. The top of the sod shall be flush with surrounding grades.

- C. Scarify subsoil to a depth of 3 inches. Remove weeds, plants, roots, stones and foreign materials 1 inch in diameter and larger. Repeat scarifying in areas where equipment used for hauling and spreading topsoil, has compacted subsoil.
- D. Remove foreign materials, weeds, and undesirable plants and their roots. Remove contaminated subsoil.
- E. Dig pits and beds three times wider than plant root system.

3.02 PLACING TOPSOIL

- A. Place topsoil during dry weather and on dry unfrozen subsoil where indicated on Drawings and/or in all disturbed areas not stabilized with pavement, concrete, sod, or other ground cover.
- 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. Apply lime to soil within 24 hours of placing topsoil.
- B. In seeded areas, 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.
- C. In sodded areas, liming shall be done not more than 48 hours prior to laying the sod.
- D. Spread lime evenly by means of a mechanical distributor.
- E. 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.
- F. In seeded areas, incorporate lime in the top 2 to 3 inches of soil by harrowing, disking, or other approved means.

3.04 APPLICATION OF FERTILIZER

- A. Fertilizer shall not be spread prior to placing topsoil.
- B. Spread fertilizer not more than 2 weeks in advance of seeding.
- C. Spread fertilizer not more than 48 hours in advance of sodding.
- D. To verify application rate, determine acreage to be fertilized and provide Engineer with total weight of fertilizer applied to the area.
- E. 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. In seeded areas, mix thoroughly into upper 2 to 3 inches of soil by disking, harrowing or other approved methods.

3.05 SEEDING

- A. Seed where indicated on the Drawings and/or in all disturbed areas not stabilized with pavement, concrete, sod, or other ground cover.
- B. 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.
- C. 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.
- D. Immediately following seeding apply mulch or matting as listed below. Do not seed areas in excess of that which can be mulched on same day.
- E. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil depth.
- F. The Contractor shall perform seeding in accordance with the general requirements indicated on the Drawings and as required by construction Permits. In no case should the excavation for pipelines extended more than 1,000 feet without seeding unless approval is granted by the Owner.

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. Use tack to prevent disruption of mulch.
 - 2. Slopes greater than 20 percent mulch with matting. Pin matting to the ground with wire staples at 5-foot intervals, immediately after seeding.
- 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 HYDROSEEDING

- A. Seed shall not be added to the slurry until immediately prior to beginning of the operation, and shall not remain in the tank for more than 30 minutes. Mixture and application rate and method shall ensure approximately 1,500 to 2,000 pounds of wood fiber mulch is applied per acre with the seed and fertilizer.

3.08 SODDING

- A. Sodding shall be performed by a licensed and insured landscaper with at least three years of experience in this type of operation unless otherwise approved by the Engineer in writing.
- B. The Contractor and his landscape subcontractor shall coordinate the placing of the sod to begin within 24 hours after the topsoil base preparation is completed and accepted by the Engineer. Sod shall be brought to the site as near to the time of placing as possible. During wet weather, the sod shall be allowed to dry sufficiently to

prevent tearing. Handling shall be done in a manner which will prevent tearing, breaking, drying or other damage. Carefully place sod in rows with the longer side perpendicular to slopes and the ends staggered in each successive row in a brick-like pattern. Butt the ends and sides together tightly and do not overlap or stretch the sod. Do not leave any voids or gaps.

- C. Ensure sod that abuts valve box covers, manhole covers and/or utility poles, walks, etc. is 1/4" below the edge of the structure to allow for positive drainage. Soil shall not dam up water adjacent to walks, etc. or exhibit ponding. Unavoidable gaps shall be closed with small pieces of torn or broken sod if kept moist and approved by the Engineer. After the sod is laid, irrigate thoroughly to allow water to penetrate a minimum 6 inches into the soil below the sod. Sod shall not be placed when the atmospheric temperature is below 32° F.
- D. Tamp and roll completed sod installation with a manual roller or approved equipment to eliminate minor irregularities and to form close contact with the soil bed immediately after placing and watering. On steep slopes 3:1 (horizontal and vertical) or greater, in drainage ditches or any areas where sod slipping may occur, anchor sod with approved wooden stakes (1/2"x 3/4" x 12") or staples spaced not over 2 feet apart in any direction and/or in sufficient number to prevent slippage or displacement. The anchors shall be driven flush with the surface of the sod. The wide flat side of the stake shall be driven parallel to the slope. Staking shall be done concurrently with sod placement and prior to tamping. Sod shall be laid with the long horizontal edge of the strips parallel to the contour starting at the bottom of the slope. The edge of the sod shall be turned slightly in the ground at the top of a slope and a layer of earth placed over it and compacted so as to conduct the surface water over and onto the top of the sod.
- E. Upon completion of the above-described work, the surface of the sodded areas shall coincide with the finished grade and not exceed 1/4" plus or minus variation to adjoining grade or proposed contour. Extreme care shall be taken to prevent the installed sod from being torn or displaced.
- F. Where sod is placed adjacent to travel way Contractor shall protect sod from vehicular or other shoulder traffic by roping off temporarily or providing other suitable means of protection until sod has set

3.09 PROTECTION

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

3.10 STABILIZATION TIMELINE

- A. All disturbed areas must be vegetated or otherwise stabilized after being disturbed in accordance with the table below:

GROUND STABILIZATION*		
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
Perimeter Dikes, Swales, Ditches and Slopes	7 Days	None

High Quality Water (HQW) Zones	7 Days	None
Slopes Steeper than 3:1	7 Days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 to 4:1	14 Days	7 days for slopes greater than 50 feet in length and slopes steeper than 4:1 10 days for Falls Lake Watershed
All Other Areas with Slopes Flatter than 4:1	14 Days	10 days for Falls Lake Watershed unless there is zero slope
"EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (NCG 01 - SECTION II.B.2.b)		

END OF SECTION

SECTION 32 93 00
LANDSCAPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide any tree, bush, or plant as specified on the Drawings.
- B. Replace in-kind any tree, bush, plant or grass that is disturbed or significantly damaged, outside of the prescribed construction limits during construction or identified to be preserved or protected within the limits of construction.
- C. Damage requiring replacement shall be solely determined by the Engineer. The Contractor shall make every effort to minimize the destruction of vegetation except as specified on the Drawings and shall utilize effective soil erosion control measures at all times.

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 01 35 13 Specific Project Requirements

1.03 SUBMITTALS

- A. Certificates of Inspection as required by law or governing authorities to accompany shipments.
- B. Peat moss, compost, or other organic soil amendments. Fertilizer materials.
- C. Certificates indicating nursery source of each plant.
- D. Source of mulch for approval and physical sample.
- E. Proposed planting schedule, indicating dates for each type of landscape work during normal seasons for such work. Once accepted, revise dates only as approved in writing, after documentation of reasons for delays.

1.04 QUALITY ASSURANCE

- A. The Contractor shall provide a licensed and insured landscaper with at least three years of experience including at least two completed jobs of dollar value and scope similar to this work.
- B. Landscaper shall be registered with the NC Landscape Contractor's Registration Board and shall have their pesticide applicator's license and appropriate sub-classification for Turf and Ornamentals, and/or Right-Of-Way as required by the North Carolina Department of Agriculture Pesticide Board.
- C. No plant substitutions will be permitted without the prior written approval of the Engineer.
- D. The Engineer may inspect trees and shrubs either at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Engineer retains the right to further inspect trees and shrubs for size and conditions of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any item during progress of work. Any such inspection before or during planting operations however shall not be construed as final

acceptance of the plants involved. Contractor shall remove rejected trees or shrubs immediately from project site.

- E. The Contractor should be familiar with the quality of materials available from suppliers in order to minimize the likelihood that unacceptable products will be rejected.
- F. All plants shall be first-class representatives of their species. All plants shall have normal, well-developed branches and vigorous root system. They shall be sound, healthy, vigorous, and free from defects, disfiguring knots, abrasions of the bark, sunscald injuries, plant diseases, insect eggs, borers, and all other forms of infections. Trees shall have reasonably straight stems, and shall be well branched and symmetrical in accordance with their natural habits of growth. All plants shall be nursery grown.
- G. Grading of plants, type, and minimum dimensions of containers shall conform to the specifications contained in the latest edition of "American Standard for Nursery Stock." Plants shall not be cut back from larger sizes to meet sizes called for on the Construction Drawings. Plant names indicated, should comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. All plants delivered shall be true to name. Plants larger than specified may be used if acceptable to the Engineer prior to planting. Use of such plants shall not increase the Contract price. Large plants that have been cut back to the specified sizes will not be accepted.
- H. Plants shall have been nursery grown under climatic conditions similar to the location of this project, for at least one growing season prior to this work. The planting stock shall be grown by nurseries within the same physiographic province of North Carolina within 200 miles of the project site. The seed sources for the plant material shall also match the physiographic province of the area to be planted. Plant stock or seed mixes may be obtained from nurseries beyond the 200-mile limit with the prior written approval of the Engineer.
- I. The preferred planting time is between October 15-March 15 and when ground is not frozen (exceptions require approval by the Engineer).
- J. The greater quantity shall take precedence if discrepancies occur between the quantities designated on the materials list and those indicated on the Drawings.

1.05 DELIVERY, STORAGE, AND PROTECTION

- A. Notify Owner of delivery schedule in advance so plant material may be inspected by the Owner and/or the Engineer upon arrival at the job site. Unaccepted plant material shall be removed immediately from the job site.
- B. Deliver trees and shrubs after preparations for planting have been completed, plant locations are field staked, and plant immediately.
- C. In preparing plants for moving, all precautions customary in good trade practice shall be taken. All plants shall retain as many fibrous roots as possible. Container grown stock shall not be root-bound or with root systems hardened off. Securely attach to all plants, bundles, or packages of plants of a single species and size, or plant container, labels stating the correct plant name and size. Labels shall be durable and legible in weather resistant ink. Cover plants transported on open vehicle with a protective covering to prevent windburn. Plants transported uncovered may be rejected.

- D. Provide plants typical of their species or variety, with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free of all pests, diseases, and cankers, in healthy condition, and free of mechanical damage. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.
- E. Trees that have the main trunk forming a “Y” shape may be rejected.
- F. Trees and shrubs shall not be pruned prior to delivery to the site and shall be pruned only to remove broken branches or for structural improvement. No other pruning is required at planting. No new pruning wounds shall be present with a diameter of more than 1-inch and such wounds must show vigorous bark on all edges.
- G. Trees and shrubs shall not be bent or tie-bound in such a way to damage the leader or bark.
- H. Schedule delivery of plant material to avoid storage on site. If planting is delayed more than 6 hours after delivery, set plants in the shade; protect from weather, mechanical damage, and vandalism; keep roots moist; prevent freezing of the root ball; and remove ties from branches. Protect balls or roots from drying by covering at all times with moist saw dust, wood chips, shredded bark, peat moss, or other similar mulching material. Cool the surface of the storage area by watering before placing plants on it. Keep plants protected from strong direct or reflected light, especially tree trunks. Plants that cannot be planted immediately upon delivery shall be properly protected, heeled in and irrigated daily.
- I. The Contractor shall take precautions necessary to prevent desiccation or mechanical damage prior to, during and after delivery to the site.
- J. All plants remain the property of the Contractor until final acceptance.
- K. Live stakes and live cuttings shall be moved from harvest site and planted within eight (8) hours of cutting. Contractor shall protect plant materials from drying and overheating at the time of harvest, during transport, and during the construction process.
- L. Live stakes and live cuttings shall be planted on the same day as harvested, or stored for a period of no longer than two (2) days. Storage shall include keeping the cuttings in a shaded area and wrapped in moist burlap or other approved method to prevent drying. Misting and watering shall not be done with water that exceeds 60° F. Take only enough cuttings from the storage area that can be planted in the same day.
- M. Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.
- N. Products shall be packed and shipped in a manner, which will not damage them. Damaged products will be rejected upon delivery and promptly removed from the site.
- O. Products, which must be stored prior to installation, shall be protected from sun, water, theft, and any other damage.

1.06 PLANT WARRANTY

- A. The Contractor agrees to replace defective work and defective plants. The Engineer shall make the final determination if plants meet these specifications or that plants are defective.
- B. Plants warranty shall begin on the date of Substantial Completion of Landscaping and continue for a period of one (1) year.
- C. When the work is accepted in parts, the warranty periods shall extend from each of the partial Substantial Completion of Landscaping to the terminal date of the last warranty period. Thus, all warranty periods for each class of plant warranty, shall terminate at one time.
- D. All plants shall be warrantied to meet all the requirements for plant quality at installation in this specification. Defective plants shall be defined as plants not meeting these requirements. The Engineer shall make the final determination that plants are defective.
- E. Plants determined to be defective shall be removed immediately upon notification by the Engineer and replaced without cost to the Owner, as soon as weather conditions permit and within the specified planting period.
- F. The Contractor is exempt from replacing plants, after Substantial Completion of Landscaping and during the warranty period, that are removed by others, lost or damaged due to occupancy of Project, lost or damaged by a third party, vandalism, or any natural disaster.
- G. Replacements shall closely match adjacent specimens of the same species. Replacements shall be subject to all requirements stated in this specification. Make all necessary repairs due to plant replacements. Such repairs shall be done at no extra cost to the Owner.
- H. The warranty of all replacement plants shall extend for an additional one-year period from the date of their acceptance after replacement. In the event that a replacement plant is not acceptable during or at the end of the said extended warranty period, the Engineer may elect one more replacement items or credit for each item. These tertiary replacement items are not protected under a warranty period.
- I. During and by the end of the warranty period, remove all ties and guying unless agreed to by the Engineer to remain in place. All trees that do not have sufficient caliper to remain upright, or those requiring additional anchorage in windy locations, shall be staked or remain staked, if required by the Engineer
- J. Acceptance of Plants at the End of the Warranty Period
 - 1. At the end of the warranty period, the Engineer shall observe all warranted work, upon written request of the Contractor. The request shall be received at least ten (10) calendar days before the anticipated date for final observation.
 - 2. End of Warranty Final Acceptance will be given only when all the requirements of the work under this specification and in specification Section 32 92 00, Lawns and Grasses, are met

PART 2 PRODUCTS

2.01 CONTAINER PLANTS

- A. Container plants shall be healthy, vigorous, well-rooted, and shall have become established in the container in which they are delivered. These plants shall have been in the established container long enough for the fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container. No plants shall be loose in the container and shall not be pot bound. The container shall be as specified on the Drawings, sufficiently rigid to firmly hold the soil protecting the root during transporting, handling, and planting.
- B. Plants shall be measured when branches are in the normal position. Height and spread dimensions refer to the main body of the plant and not branch tip to tip. If a range of size is given, no plant shall be less than the minimum size and not less than 40% of the plants shall be as large as the maximum size specified. The measurements specified are the minimum size acceptable and are the measurements after any pruning, where pruning is required. Plants that meet the measurements specified, but do not have a normal balance between height and spread shall be rejected.

2.02 TUBLING PLANTS

- A. Tubling plants shall have a heavy fibrous root system, which has been developed by proper cultural treatment. Tublings shall be grown in a container with a minimum of 6 inches in length and 1.5 to 2 inches in diameter for the fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container. They shall be packaged, transported, and handled in a manner that will prevent injury to or drying out of the trunks, branches, or roots, or freezing of the roots. If planting will be delayed more than 6-hours after delivery, the planting materials shall be set in the shade, protected from weather and mechanical damage, and the roots kept moist. If the roots become dried out, heel-in the stock and water for 2-hours.

2.03 LIVE STAKES

- A. Live stakes shall be locally harvested or commercially supplied freshly cut live plants of select dormant stock, which has been developed by proper cultural treatment. Stakes shall be 1/2" to 2" diameter and between 2 - 3 feet long. They shall be carefully cut from mother-stock plantings. Plant materials shall be packaged, transported, and handled in a manner that will prevent injury, drying out, or freezing. Live stakes should be secured from a source that is located within 200 miles of project site. Rooting hormone Indoleacetic acid (IAA) shall be applied to increase success of the live cuttings and used per the manufacturer's recommendations.

2.04 LIVE CUTTINGS

- A. Live cuttings shall be locally harvested or commercially supplied dormant, 1/2-inch to 2-inch diameter live stakes; 1-2 feet longer than the width of the proposed soil lift of the vegetated geogrid. The live cuttings should be relatively straight, with no visible signs of disease, damage or deformity. Rooting hormone Indoleacetic acid (IAA) shall be applied to increase success of the live cuttings and used per the manufacturer's recommendations.

2.05 PLANTING SOIL MIX

- A. All tree and shrub planting pits shall be backfilled with a planting mix consisting of the following proportions by volume:

1. 5 parts approved topsoil
 2. 2 parts peat
 3. 1 part manure
- B. The planting soil mix shall be thoroughly rotary mixed prior to installation. If directed by the Engineer, ground limestone shall be added to the mix at a rate of 2½ pounds per cubic yard for each one full point rise in pH desired.
- 2.06 TOPSOIL
- A. Refer to Section 32 92 00, Lawns and Grasses for requirements.
- 2.07 PEAT MOSS
- A. Brown to black in color, weed and seed free granulated raw peat or baled peat, containing not more than 9% mineral on a dry basis.
- 2.08 MANURE
- A. Manure shall be aged, commercially composted horse or cow manure subject to approval by the Engineer.
- 2.09 LIME
- A. Refer to Section 32 92 00, Lawns and Grasses for requirements.
- 2.10 MULCH FOR PLANTS
- A. Well-composted, double-shredded hardwood mulch with a maximum particle size of 2", free of waste materials and weed seed.
- 2.11 HERBICIDES
- A. Post-emergent: Non-Riparian Areas - "Round-Up" by Monsanto or equal.
- 2.12 RIPARIAN AREAS - "RODEO" OR EQUAL.
- A. Pre-emergent: XL2G or Snapshot (depending on plant crop) or equal
- 2.13 FERTILIZER
- A. Refer to Section 32 92 00, Lawns and Grasses for requirements.
- 2.14 PACKAGED MATERIALS
- A. All packaged goods including fertilizer shall arrive to the site in original unopened, undamaged containers showing weight, analysis and name of manufacturer. All packaged goods shall be covered and protected from deterioration until used.
- 2.15 WATER
- A. Refer to Section 32 92 00, Lawns and Grasses for requirements.
- 2.16 WATERING BAGS
- A. Watering bags shall be of the type that are attached to the trunk and sit vertically when full. No flat bags that cover the root ball will be allowed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine proposed planting areas and conditions before installation. Do not start planting work until unsatisfactory conditions are corrected.

3.02 HERBICIDE

- A. Prior to using any herbicide, notify the Owner.
- B. "Round-Up" by Monsanto (or equal) shall be applied per the manufacturer's directions.
- C. Reapply after 30 days if signs of plant growth can still be detected in treated areas.
- D. Near waterways and within riparian buffers, use "Rodeo", or equal, according to manufacturer's directions.
- E. Pre-emergent XL2G or Snapshot shall be applied by the Contractor to plant beds prior to the emergence of any weed seeds. Pre-emergent is to be applied at rates specified on the package as recommended by the manufacturer. Select pre-emergent based on the season of effectiveness.
- F. Weeds, grass or other undesirable plants may be removed manually in lieu of herbicides.

3.03 PREPARATION OF SUBGRADE

- A. Do not work soils that are frozen, muddy or saturated.
- B. Rough grading shall be brought to a true and uniform grade, clear of all stones larger than one (1) inch, sticks and other extraneous materials.
- C. Where the subsoil is composed of heavy clays or compacted due to construction activity the soils shall be ripped to a minimum depth of six (6) inches.
- D. Ripped areas shall be brought back to a final, fine grade by the Contractor.

3.04 DRAINAGE, DETRIMENTAL SOIL, UNDERGROUND UTILITIES, AND OBSTRUCTIONS

- A. The Contractor shall notify the Engineer in writing of all soil and drainage conditions considered detrimental to growth of plant material as identified by the Contractor or in the soils report.
- B. Alternate plant locations due to unforeseen conditions must be approved by the Engineer and the Owner.

3.05 LOCATIONS OF PLANTS ON THE SITE

- A. The Contractor shall lay out and field stake the position of all plants. The Contractor shall then notify the Engineer for review and approval of the plant locations. The Engineer will notify the Owner who may attend the inspection for field staking.

3.06 PLANTING

- A. Planting shall be performed only by experienced workers familiar with planting procedures under the supervision of a qualified supervisor.
- B. Excavate circular plant pits with vertical sides for ball and burlap and container material so that width of pit is two-times diameter of root ball. Scarify bottom of the pit. Remove

excess excavated materials from the site. Provide planting soil mix for use around the balls and roots of the plants.

- C. Set container plant material in the planting pit to proper grade and alignment. If fabric is used in container plants, remove first before setting in pit. Set plants upright, plum, and no lower than the finished grade or 2-3 inches above finished grade. Add excavated pit material to fill approximately half of the pit and add two fertilizer tablets to each pit per the manufacturer's recommendations. Fill rest of pit with plant soil mix and bring to finished grade. Lightly compact fill around root ball and be sure to fill all voids. No filling will be permitted around trunks or stems.
- D. If additional soil is required for backfilling as a result of raising the plant, use soil similar to the topsoil of the surrounding area. Any imported soil shall be approved by Engineer.
- E. For tubling material, open planting hole deep and wide enough for root ball. Add fertilizer tablet to each tubling hole per the manufacturer's recommendations. Tubling shall be placed vertical in the plant hole with top of root ball equal or slightly higher than existing grade. Backfill planting hole with planting soil mix and be sure to eliminate air spaces around the root ball.
- F. For live stakes, use a mallet and rebar (or equivalent, slightly smaller than diameter of live stake cutting) to make the planting hole. Wiggle rebar loose after every few blows so rebar can be removed after making hole as deep as possible. Place live stake in planting hole and place board on top of live stake to hammer into hole. Live stake shall be driven so a minimum of 2/3 the length of the live stake is in the soil. If top splits, replace live stake with fresh cutting. Replace soil in planting hole to fill any voids.
- G. Watering: Thoroughly water each plant immediately after planting to pull soils against root ball and settle air pockets. Additional soil may be needed, water again to ensure complete compaction. Trees and shrubs shall stand plumb and uniform after watering.
- H. Mulching: After planting has been satisfactorily completed, 4 inches of mulch for plants shall be placed on the finished grade around all plants. Mulch shall not be placed near the trunk or branches of trees and shrubs. The boundaries of mulch shall be 6 inches greater in diameter than that of the planting hole.
- I. Pruning and Repair: Remove or cut back broken, damaged, and asymmetrical growth of new wood. Unless otherwise directed, prune evergreens only to remove broken or damaged branches.
- J. Clean-Up and Safety: Take special care to keep access roads and sidewalks cleared of mud and debris tracked by site vehicles. After planting operations are finished, clean all paved areas which may have been strewn with soil or other material by washing. The Contractor shall not leave any plant hole open or unattended without proper protective signals, barriers, etc., or in any manner present a hazard to pedestrians or vehicles on the site.

3.07 PINE STRAW

- A. Pine straw shall be placed at locations shown on the Drawings or to replace pine straw removed due to construction. Pine straw shall be evenly spread at a rate resulting in approximately 2-3" thickness in place.

3.08 STAKING

- A. Do not stake trees unless determined by the Contractor to be necessary to keep the tree upright and plumb throughout the warranty period. If stabilization is necessary,

use white arbor tape, and 18"-24" wooden stakes with holds at the top to secure the tape. Using a bowline knot, attach the tape to the crotch of the first substantial limb. To ensure visibility of new tree, attach orange flagging tape to the arbor tape. Staking shall be removed by the Contractor at the end of the warranty period or as directed by the Owner.

3.09 PRUNING

- A. All tree pruning shall be done by or under the supervision of an ISA Certified Arborist or Owner approved professional.
- B. Prune dead wood at the end of the guarantee period according to American Standard for Nursery Stock standards and according to standards set forth in the ANSI A300 publication Pruning Standards for Shade Trees, published by the National Arborist Association.

3.10 WATERING

- A. The Contractor shall provide water.
- B. Containerized plants shall be watered immediately prior to planting. Thoroughly water plants immediately after planting to thorough saturation of all backfill in the pits and beds during the same day of planting. When fully settled, the plants should be at the proper grades and vertical.
- C. Apply water only by open-end hose at low pressure. Sufficient water is achieved by filling the saucer twice per application per tree and per shrub. Rain substitutes for a scheduled watering when at least 2 inches of rainfall has been verified. It is the responsibility of the Contractor to keep the plant root zone moist enough to establish healthy and attractive plant material.
- D. Watering requirements during the initial shock period (first 30 days after planting) shall be every day for the first 3 days; every other day for 10 days; twice per week for 2 weeks.
- E. If the Contractor elects to use watering bags, the Contractor shall install at a minimum 15-gallon watering bags for each tree to be maintained and used for tree watering during the warranty period. The watering bags will remain the property of the Contractor and shall be removed from the site after final acceptance.

3.11 CLEAN-UP

- A. During installation, keep the site free of trash, pavements reasonably clean and work area in an orderly condition at the end of each day. Remove trash and debris in containers from the site no less than once a week.
- B. Immediately clean up any spilled or tracked soil, fuel, oil, trash or debris deposited by the Contractor from all surfaces within the project or on public right of ways and neighboring property.
- C. Once installation is complete, wash all soil from pavements and other structures. Ensure that mulch is confined to planting beds and that all tags and flagging tape are removed from the site.
- D. Make all repairs to grades, ruts, and damage by the plant installer to the work or other work at the site.

- E. Remove and dispose of all excess planting soil, subsoil, mulch, plants, packaging, and other material brought to the site by the Contractor.

3.12 PROTECTION DURING CONSTRUCTION

- A. The Contractor shall protect planting and related work and other site work from damage due to planting operations, operations by other Contractors or trespassers. Maintain protection during installation until Substantial Completion of Landscaping. Treat, repair or replace damaged work immediately.
- B. Damage done by the Contractor, or any of their sub-contractors to existing or installed plants, or any other parts of the work or existing features to remain, including roots, trunk or branches of large existing trees, soil, paving, utilities, lighting, irrigation, other finished work and surfaces including those on adjacent property, shall be cleaned, repaired or replaced by the Contractor at no expense to the Owner. The Engineer shall determine when such cleaning, replacement or repair is satisfactory.

3.13 PLANTING MAINTENANCE PRIOR TO SUBSTANTIAL COMPLETION OF LANDSCAPING

- A. During the project work period and prior to Substantial Completion of Landscaping, the Contractor shall maintain all plants.
- B. Maintenance during the period prior to Substantial Completion of Landscaping shall consist of pruning, watering, cultivating, weeding, mulching, removal of dead material, repairing and replacing of tree stakes, tightening and repairing of guys, resetting plants to proper grades and upright position, and furnishing and applying such sprays as are necessary to keep plantings reasonably free of damaging insects and disease, and in healthy condition. The threshold for applying insecticides and herbicide shall follow established Integrated Pest Management (IPM) procedures. Mulch areas shall be kept reasonably free of weeds, grass.

3.14 SUBSTANTIAL COMPLETION OF LANDSCAPING

- A. Upon written notice from the Contractor, the Engineer shall review the work and make a determination if the work is substantially complete.
- B. Notification shall be at least seven (7) days prior to the date the Contractor is requesting the review.
- C. The date of Substantial Completion of Landscaping shall be the date when the Engineer accepts that all work in the specification is complete.
- D. The Plant Warranty period begins at date of written notification of Substantial Completion of Landscaping from the Engineer. The date of Substantial Completion of Landscaping may be different than the date of Substantial Completion for the other sections of the project.

3.15 MAINTENANCE DURING THE WARRANTY PERIOD

- A. Maintenance of installed and accepted plantings will be performed by the Contractor from the Substantial Completion of Landscaping and shall continue until the end of the warranty period. The Contractor shall provide maintenance for all plantings to keep the plants in a healthy state and the planting areas clean and neat.
- B. Contractor's maintenance shall include, but is not limited to, watering, monitoring the soil nutrient levels, fertilizing, plant pruning, restoring/resetting of plants, maintaining

guying and staking, weed control, trash removal, plant pest control, refreshing mulch, and replanting as necessary to maintain plants until final acceptance.

3.16 END OF WARRANTY FINAL ACCEPTANCE/MAINTENANCE OBSERVATION

- A. At the end of the Warranty and Maintenance period the Engineer shall observe the work and establish that all provisions of the contract are complete and the work is satisfactory.
- B. If the work is satisfactory, the maintenance period will end on the date of the final observation.
- C. If the work is deemed unsatisfactory, the maintenance period will continue at no additional expense to the Owner until the work has been completed, observed, and approved by the Engineer.
- D. Failure to Pass Observation: If the work fails to pass final observation, any subsequent observations must be rescheduled as per above. The cost to the Owner for additional observations will be charged to the Contractor at the prevailing hourly rate of the Engineer.

END OF SECTION

JOSH STEIN
Governor

D. REID WILSON
Secretary

WILLIAM E. TOBY VINSON, JR.
Director



Certificate of Approval for Construction

August 22, 2025

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7022 0410 0003 1066 3623

City of Raleigh
Dams Asset Management
127 W. Hargett Street, 8th Floor
Raleigh, NC 27601

RE: Certificate of Approval for Construction
Lake Johnson Dam
Wake County
State Dam ID: WAKE-035

To Whom It May Concern:

This is in response to your latest submission dated June 27, 2025, and received on June 27, 2025, of plans, specifications, and design data for construction to the subject dam in compliance with the Dam Safety Law of 1967. The subject dam is of high hazard classification. The plans, specifications, and design data submitted were prepared under the supervision of Ryan P. Doyle, PE of AECOM. Also, a payment with Reference ID 043000090141551 in the amount of \$2811.83 serving as the initial nonrefundable application processing and compliance fee was received on July 17, 2025.

This letter constitutes approval for construction to the subject dam according to the plans, specifications, and design data received by this Division on June 27, 2025, with the following stipulations:

1. In accordance with GS 143-215.29, construction shall be supervised by Ryan P. Doyle, PE of AECOM. Ryan P. Doyle, PE shall be responsible for field observation of construction activities as necessary to ensure compliance with the approved plans.
2. During construction activities, the Division of Energy, Mineral, and Land Resources may require progress reports as are deemed necessary.
3. In accordance with GS 143-215.30 and 15A NCAC 02K .0203, .0212, .0215, and .0216, within 30 days of completion of the project, Ryan P. Doyle, PE shall inspect the completed work and upon finding that the work has been done as specified, minimum stream flow requirements have been satisfied, and the dam is safe, shall file with the Division of Energy, Mineral, and Land Resources one set of record drawings and the engineer's certification stating that the work has been completed in accordance with approved plans, specifications and other requirements.
4. The remainder of the nonrefundable application processing and compliance fee must be submitted with one set of record drawings, the owner's certification showing the actual cost incurred by the owner for construction to the subject dam, and the engineer's certification. Enclosed is the owner's certification form



North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources
512 North Salisbury Street | 1612 Mail Service Center | Raleigh, North Carolina 27699-1612
919.707.9200

transmitted via email (you may also refer to the Dam Safety website at <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety-permits/fees>).

5. Prior to issuance of final written consent for use of this dam pursuant to the construction, the requirements of Session Law 2014-122, Section 8, as revised by Session Law 2015-7 must be met. Session Law 2015-7 requires all owners of high and intermediate hazard dams to submit an annually updated Emergency Action Plan (EAP) to the NC Department of Environmental Quality and the NC Department of Public Safety. More details regarding this requirement may be found online at (<https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety>).
6. All trees, brush and woody vegetation must be removed from the slopes and crest of the dam embankments and the emergency spillway areas. All trees and/or brush less than six inches in diameter at breast height may be removed either by excavation or cutting flush to the ground. All trees larger than six inches in diameter at breast height must be completely removed by excavation, including roots, and the resulting excavations properly backfilled with select fill. All disturbed areas must be immediately revegetated with a good cover of grass adequate to prevent surface erosion. Excavation and backfilling required for tree removal will require engineered plans to be submitted to Dam Safety for review and approval before removal may proceed. FEMA 534 "Technical Manual for Dam Owners, Impacts of Plants on Earthen Dams" should be used as guidance.
7. An operation and maintenance (O&M) plan is required for all high hazard dams. The O&M plan should address routine maintenance, frequency of piezometer readings, frequency of inspections by the owner or the owner's representative, and annual operation of the bottom drain to ensure that it is functional. The O&M plan must be received prior to issuance of final written consent for use of this dam pursuant to the construction.
8. This approval does not convey the right to access the private property of others. Any required access to perform the approved work must be secured prior to initiation of construction activities.
9. Provided that the disturbed area is an acre or more, an erosion and sedimentation control plan needs to be submitted, including a Financial Responsibility and Ownership (FRO) form and applicable permitting fee, to the Division of Energy, Mineral, and Land Resources Raleigh Regional Office at least 30 days prior to initiating land disturbing activities.
10. Ten days before the start of construction activities and impoundment management/lake drawdown, you must notify William H. Denton, IV, PE, Regional Engineer, Land Quality Section, 3800 Barrett Drive, Raleigh, North Carolina 27609, telephone number (919) 791-4200.

Water control activities required to complete the approved construction which involve diversion and discharge of reservoir waters to discharge points not covered by an existing NPDES permit, or which utilize procedures that are not approved by an existing NPDES permit, must receive approval from the Division of Water Resources prior to implementation.

The Army Corps of Engineers and the Division of Water Resources of this Department should be contacted to determine if additional permits are required. Also, the erosion and sediment control program having jurisdiction should be contacted to determine plan approval requirements. In any case, sediment must be prevented from entering the waters of the state or flowing onto neighboring property.

Should the subject dam change ownership, a "Change of Ownership of a Dam" form must be completed by the new owner of the dam at the time of transfer in order to ensure the new owner receives important information concerning the subject dam, and the former owner be released from liability. The form may be located on the Dam Safety website at <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/dam-safety>



safety/application-forms. The completed form must be submitted via email to DamSafety@deq.nc.gov listing the change of ownership for the subject dam with its applicable state ID in the subject line.

There are additional guidance and resources available on the Dam Safety website at:

<https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety>.

Also, to assist dam owners through outreach and education, the Association of State Dam Safety Officials' Owner Outreach Committee has developed three educational videos as a free resource for owners on critical basics of operating and maintaining a dam safely. The videos are 1) dam inspections, 2) spillways and outlet works, and 3) operation and maintenance plans. All the videos are available at: <https://damsafety.org/dam-owners>. These videos are the first in a series specific to owner education called the 'Dam Owner Academy.'

The Dam Safety Law of 1967 requires that construction activities commence within **one year** from the date of this approval, or the approval is void. For assistance, you may contact William H. Denton, IV, PE, Regional Engineer, Land Quality Section, 3800 Barrett Drive, Raleigh, North Carolina 27609, telephone number (919) 791-4200 or the Dam Safety Program in the Raleigh Central Office at telephone number (919) 707-9220 should you have questions concerning this matter.

Sincerely,

Sue White

Sue White,
Assistant State Dam Safety Engineer III

SW/bjh

cc: William Denton, IV, PE, Land Quality Regional Engineer, RRO
Ryan P. Doyle, PE of AECOM

File name: WAKE-035_20250822_COAC_Lake Johnson Dam



North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources
512 North Salisbury Street | 1612 Mail Service Center | Raleigh, North Carolina 27699-1612
919.707.9200