CITY OF FAYETTEVILLE
INVITATION TO BID

Breezewood Avenue Sidewalk Improvements

COF1517025

ISSUED: October 5, 2026
DUE: November 12, 2026

FUNDING SOURCE: Public Infrastructure General Obligation Bond
ISSUED BY: City of Fayetteville, North Carolina
PRIMARY CONTACT: Kimberly Toon, Assistant Chief Financial Officer – Procurement
KimberlyToon@FayettevilleNC.gov
(910) 433-1942

OFFERORS ARE NOT REQUIRED TO RETURN THIS FORM.

A message from the City of Fayetteville City Manager, Dr. Douglas J. Hewett, ICMA-CM

The City of Fayetteville is fully committed to providing Small Local Business Enterprises (SLBEs) and small businesses an equal opportunity to participate in all aspects of City contracting, including but not limited to participation in the procurement of contracts relating to construction, professional services, equipment, supplies, and improvements to facilities throughout the City.

It is the policy of the City to prohibit discrimination against any person or business in pursuit of these opportunities on the basis of race, sex, color, religion, national origin, age, or disability, and to conduct its contracting and purchasing programs so as to prevent such discrimination. The City is committed to following all applicable federal, state, and local laws as they relate to procurement practices.

Small Business Participation Commitment

The City will actively seek and identify qualified small businesses, including SLBEs, and offer them the opportunity to participate in the procurement of contracts for all City purchasing and service contracts as well as construction and repair contracts. The City aspires to spend 40% of its eligible contract dollars with small local suppliers and contractors.

Small Business Enterprise Program

The City's Charter has been amended by the General Assembly (H.B. 198) to establish a small business enterprise program to promote the development of small local businesses. The City is authorized to establish bid and proposal specifications that include measures to enhance participation by small business enterprises located in Cumberland and Hoke Counties, including:

- Arranging solicitations, specifications, and contract requirements to facilitate small business participation
- Providing technical assistance and capacity building programs
- Carrying out information and communication programs on contracting procedures and opportunities
- Implementing outreach programs to identify and engage qualified small businesses
- Offering supportive services to help small businesses compete effectively
- Ensuring prompt payment to subcontractors
- Simplifying bonding and insurance requirements where appropriate

Federal and State-Funded Projects - Important Notice

In accordance with state directive following the U.S. Department of Transportation's October 3, 2025 Interim Final Rule to 49 CFR Part 26:

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

For Federally-Funded Contracts:

- No DBE goals may be established for federally-funded contracts until further guidance is provided by the state
- All existing DBE certifications are in suspended status pending Unified Certification Program (UCP) reevaluation under new individualized disadvantage standards
- Firms are not required to submit DBE participation commitments at this time

For State-Funded Contracts:

- No MB/WBE goals may be established for state-funded contracts until further guidance is provided by the state

The City will continue to facilitate participation by all qualified small businesses through the measures listed above and will resume DBE and MB/WBE program activities once the state provides further guidance.

Equal Opportunity for All

The City is committed to:

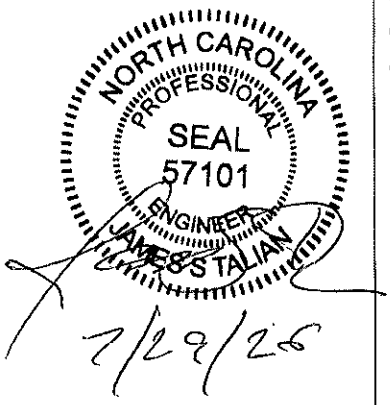
- Providing equal access to contracting opportunities for all qualified businesses
- Removing barriers to small business participation
- Supporting economic development and capacity building in our community
- Ensuring fair and open competition in all procurements
- Maintaining compliance with all applicable federal, state, and local requirements
- Supporting diversity in our supplier and contractor base

For more information or questions about the SLBE policy, please contact the Purchasing Division at 910-433-1942.

CITY OF FAYETTEVILLE

Dr. Douglas J. Hewett, ICMA-CM
City Manger

00 01 07 ENGINEER'S SEALS

	Specification Sections Sealed
	***City of Fayetteville Specifications*** 00401 Erosion Control 00405 Clearing, Grubbing, And Select Tree Removal 00425 Excavation / Backfilling 00455 Concrete 00491 Traffic Control 02831 Chain Link Fencing 02931 Sod

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4	Plan (STA: 0+00 – 9+80)
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7	Details

END OF SECTION

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ADVERTISEMENT FOR BIDS

City of Fayetteville
Breezewood Avenue Sidewalk Improvements

General Notice

City of Fayetteville (Owner) is requesting Bids for the construction of the following Project:

Breezewood Avenue Sidewalk Improvements

Bids for the construction of the Project will be received at **City of Fayetteville City Hall, Attn: Kimberly Toon** located at **City of Fayetteville City Hall, 433 Hay Street, Fayetteville, NC, 28301, until November 12, 2026, at 2:00 p.m.** local time. At that time the Bids received will be publicly opened and read.

The Project includes the following Work:

> **The Installation of approximately 820 linear feet of sidewalk along the north side of Breezewood Avenue from Purdue Drive to Forsythe Street.**

The Project has an expected duration of **180** days.

Obtaining the Bidding Documents

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

https://www.fayettevillenc.gov/City-Departments/Finance/Purchasing/Bid-Opportunities

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

Pre-bid Conference

A pre-bid conference for the Project will be held on **October 15, 2026, at 10:00 a.m.** at **339 Alexander Street, Fayetteville, NC, 28301.** Attendance at the pre-bid conference is encouraged but not required.

Instructions to Bidders.

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

This Advertisement is issued by:

Owner: City of Fayetteville
By: Kimberly Toon, CLGPO, CLGFO
Title: Assistant Chief Financial Officer - Procurement
Date: October 5, 2026

TIMELINE:

ITB	DATE
Advertisement Date	October 5, 2026
Non-Mandatory Pre-Bid	October 15, 2026, 10:00 a.m.
Deadline for Questions	October 22, 2026, by 5:00 p.m.
Submission Deadline	November 12, 2026, at 2:00 p.m.

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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ARTICLE 1—DEFINED TERMS

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

A. *Issuing Office*—The office from which the Bidding Documents are to be issued.

ARTICLE 2—BIDDING DOCUMENTS

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

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

2.03 Owner has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.

2.04 *Electronic Documents*

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

1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version **2022.001.20117** or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information

that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:

A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments. Use 00 45 13 "Qualifications Statement."

B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.

C. Bidder's state or other contractor license number, if applicable.

D. Other required information regarding qualifications.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

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

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

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

5.01 *Site and Other Areas*

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

5.02 *Existing Site Conditions*

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

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:

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

b. Those drawings known to Owner 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.

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

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

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

1. See also Section 01 11 00 “Summary of Work” Part 1.05 “Consideration and Cooperation with Utilities” for further requirements.

2. See also Section 01 31 00 “Project Management and Coordination” Part 1.08 “Protection of Existing Structures and Utilities” for further requirements.

5.03 *Site Visit and Testing by Bidders*

A. Bidders visiting the Site are required to arrange their own transportation to the Site.

B. If the Site, in part or in whole, consists of private property and/or a secured area, then a site tour may be arranged though the City of Fayetteville, at its convenience. Site visit must be coordinated through the following Owner or Engineer contact for visiting the Site: **Jeff Riddle, JeffreyRiddle@fayettevillenc.gov**

C. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

D. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner’s authority regarding the Site. Owner will not be responsible for the cost for examinations, investigations, explorations, tests, and studies Bidder deems

necessary for preparing and submitting a successful Bid. Bidder is responsible for establishing access needed to reach specific selected test sites. Bidder should adhere to the following procedures:

1. Backfill excavation with material acceptable to the Owner and process backfill to prevent future settling. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.
2. Pay all cost for soils investigation including the cost for excavation, backfill, access, and testing.
3. Coordinate, implement, and pay for all traffic control and safety measures necessary to facilitate the testing.
4. Submit a Work Plan and Traffic Control Plan **prior** to beginning any investigations to the individual and/or department noted above. See Section 01 31 00 "Project Management and Coordination" for plan descriptions and required submittals regarding the Work and Traffic Control Plan.

E. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

5.04 *Other Work at the Site*

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

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

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

A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents. Addenda will be issued no later than **twenty-four (24) hours** prior to the Bid Opening.

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

A. **Procurement Website as indicated in 00 01 16 "Advertisement for Bids for Construction Contract"**

7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than **forty-eight (48) hours** prior to the date for opening of Bids may not be answered.

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

ARTICLE 8—BID SECURITY

8.01 A Bid must be accompanied by Bid Security made payable to City of Fayetteville in the amount of five (5) percent of the Bidder's maximum Bid price (determined by adding the base bid and all alternates).

8.02 Bidders must submit an acceptable bid bond, cashier's check, or certified check as Bid Security with their Bid pursuant to North Carolina General Statute § 143-129. The acceptable bid bond must be issued by a surety legally authorized to do business in North Carolina and meet the requirements of the General Conditions. Cashier's or certified checks must be drawn on a bank or trust insured by the Federal Deposit Insurance Corporation and made payable to the City of Fayetteville. Checks shall be effective on the day Bids are opened and valid for a period of at least ninety (90) days from the date the check is issued.

8.03 The bid bond may be submitted as "C-430 2018 Bid Bond Penal Sum Form" or Bidders may provide their surety's standard penal sum bid bond form. The bid bond must reference the Owner and Project by name as identified in this Section.

8.04 Bidders must submit an acceptable Bid Security with their Bids as a guarantee that the Successful Bidder will enter into a contract for the Project with the Owner within 90 days from the date of the opening of the Bids. The Successful Bidder must execute the Contract Documents, including

performance and payment bonds, and provide evidence of insurance as required by the Contract Documents.

8.05 Owner may annul the Notice of Award and retain the Bid Security of the apparent Successful Bidder upon Bidder's failure to execute and deliver the Agreement or Amendments to the Agreement.

8.06 Bid Securities are to remain in effect until the Contract is executed. Bid bonds will become void and checks will be returned by the Owner when the Contract is awarded, or all Bids are rejected.

ARTICLE 9—CONTRACT TIMES

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

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

ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute 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 must comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions, and the review of the request will be governed by the principles in those paragraphs. 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 such proposed item, such approval will be set forth in an Addendum issued to all registered Bidders. Bidders cannot rely upon approvals made in any other manner.

10.02 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" or substitution requests are made at Bidder's sole risk.

ARTICLE 11—SUBCONTRACTORS

11.01 The Contractor shall submit to the Engineer and the City a list giving the names and addresses of subcontractors, equipment suppliers, and material suppliers they propose to use, together with the scope of their respective parts of the work. Contractors will be permitted to sublet a portion thereof, but shall perform with their own organization, work amounting to not less than 40% of the total original contract amount.

11.02 Any items designated in the contract as specialty items may be performed by a qualified subcontractor and the cost of such special items so performed by subcontract will be deducted

from the total amount bid before computing the amount of work required to be performed by the Contractor and their own organization, and

11.03 Any other items sublet to Small Disadvantaged Business Enterprises, pursuant to Section 00 41 00 "Small Disadvantaged Business Enterprise Program," up to the value of the contract SDBE goal, will be deducted from the total amount bid before computing the amount of work required to be performed by the Contractor and their own organization.

11.04 In any event, the Contractor shall perform with their own organization work amounting to not less than 35% of the difference between the total amount bid and the value of specialty items that have been sublet.

11.05 Purchasing materials for subcontractors is not included in the percentage of work required to be performed by the Contractor. IF the Contractor sublets items of work but elects to purchase material for the subcontractor, the value of the material purchased will be included in the total dollar amount considered to have been sublet.

ARTICLE 12—PREPARATION OF BID

12.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.

12.06 A Bid by an individual must show the Bidder's name and official address.

12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

12.08 All names must be printed in ink below the signatures.

12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.

12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.

12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 *Unit Price*

A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

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

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 14—SUBMITTAL OF BID

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

14.02 Submit the Bid no later than the date and time prescribed and at the place indicated in "00 01 16 Advertisement for Bids for Construction Contracts." Enclose the Bid in an opaque sealed envelope plainly marked with the Project number, Project title, bidder's name, address, and contractor's license number. Address the envelope to the name and address of the Offeror, along with the Bid Security and other required documents. If sent by mail or other delivery service, enclose the sealed envelope containing the Bid in a separate envelope plainly marked on the outside with the

notation “BID ENCLOSED.” Address the outer envelope to the mailing or physical address shown in “00 01 16 Advertisement for Bids for Construction Contracts.” Offeror assumes full responsibility for ensuring that the Bid arrives at the prescribed location before the prescribed time.

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

14.04 Provide the documentation required by Section 00 41 00 “Small Disadvantaged Business Enterprise Program” to demonstrate compliance with or to demonstrate a good faith effort in attempting to meet the goals for this Project.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

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

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

15.03 Bids may be withdrawn prior to the award of the Contract if the Offeror files a signed written notice with the Owner within 72 hours after Bids are opened. Any request made by an Offeror to withdraw its Bid for this Project will be subject to the requirements of NCGS §143-129.1.

ARTICLE 16—OPENING OF BIDS

16.01 Bids will be opened at the time and place indicated in “00 01 16 Advertisement for Bids for Construction Contracts.” if the requisite number of bids have been submitted. The Owner will publicly acknowledge receipt of Bids received in time to be considered and then open and read aloud the names of the Offerors and the amount bid as required by applicable Laws and Regulations. Upon opening, all bids shall become property of the City of Fayetteville and will not be returned to the Offeror.

ARTICLE 17—CONFIDENTIALITY OF BID INFORMATION

17.01 Bids will be opened in a manner that avoids disclosure of trade secrets and confidential information to competing Offerors and that will keep the Bids from the public until a contract is awarded. All Bids submitted to the Owner will be open for public inspection after the Contract is awarded. Information that has designated as confidential or as a trade secret at the time Bids are submitted may not be subject to disclosure to the public under Chapter 132 of the North Carolina General Statutes.

17.02 Clearly indicate which specific documents are considered to be trade secrets or confidential information by stamping or watermarking all such documents with the word “confidential” prominently on each page or sheet as well as on the cover of bound documents. Place “confidential” stamps or watermarks so that they do not obscure any of the required information

on the document, either in the original or in a way that would obscure any of the required information in a photocopy of the document.

17.03 Submit all confidential information in a different binder so this confidential material is separate from the rest of the Bid.

17.04 The Owner will protect this information to the extent allowed by state Laws and Regulations. However, if the Owner is requested or becomes legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil or criminal investigative demand, public information requests, including requests under Chapter 132 of the North Carolina General Statutes, or similar process) or is required by a regulatory body to make any disclosure that is prohibited or otherwise constrained by this Agreement, the Owner will provide Offeror with prompt notice of this request so that it may seek an appropriate protective order or other appropriate remedy.

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 also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work. Any bid including any unit or lump sum bid price that is unbalanced to the potential detriment of the City will be considered irregular and may be rejected.

19.02 Owner may conduct such investigations as it deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, any proposed Subcontractors or Suppliers, consultants, individuals, or entities proposed to furnish parts of the Work in accordance with the Contract Documents.

19.03 Qualifications Statement: Submit information as required in C-451 2018 “Qualifications Statement” within fifteen (15) days of the date Bids are due if requested to do so by the Owner.

19.04 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible or in its best interest

19.05 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of

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

19.06 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

19.07 Each Bidder agrees to waive any claim it has or may have against the members of the Owner, Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any Bid.

19.08 Notwithstanding any other provision of the Contract Documents, it is stipulated and agreed that by accepting a Bid, the Owner has not and does not waive its sovereign immunity from suit and/or liability.

19.09 *Evaluation of Bids*

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

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

19.10 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder, past performance on past/current Owner projects, and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

ARTICLE 20—BONDS 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, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

20.02 Provide performance and payment bonds for this Project that fully comply with the provisions of Chapter 44A of the North Carolina General Statutes. Administration of these bonds will conform

to Chapter 44A of the North Carolina General Statutes and the provisions of the Contract Documents.

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

ARTICLE 21—SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within fifteen (15) days of receiving the signed documents from the Successful Bidder, or within a longer time-frame specified by the Owner via written notice to the Successful Bidder, the Owner will deliver one set of fully signed counterparts to the Successful Offeror together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22—SALES AND USE TAXES

22.01 Bidders will be required to comply with applicable North Carolina state Laws and Regulations related to the payment of sales and use taxes for this Project. Additional requirements for the reporting of state sales tax expenditures and reimbursable sales taxes are included in Section 00 45 04 “North Carolina State Sales Tax Requirements.”

22.02 Said taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

ARTICLE 23—DIVERSE BUSINESS PARTICIPATION PROGRAM

23.01 Offerors will be required to comply with any applicable diverse business participation goals required by Chapter 143 of the North Carolina General Statutes.

23.02 Offerors will also be required to comply with the Owner’s diverse business participation program as specified in Section 00 41 00 “Small Disadvantaged Business Enterprise Program.”



CITY OF FAYETTEVILLE

SMALL DISADVANTAGED BUSINESS ENTERPRISE PROGRAM FOR CONSTRUCTION, PROCUREMENT, AND PROFESSIONAL SERVICES

FAYETTEVILLE CITY COUNCIL
433 HAY STREET
FAYETTEVILLE, NORTH CAROLINA 28301

SMALL DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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SMALL DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

I. Applicability.

(a) This program shall apply to all construction and repair work involving the expenditure of City funds, regardless of the sources of other funds, in the amounts set forth in G.S. 143-129 and G.S. 143-131; this program shall also apply to the procurement of architectural, engineering and surveying services as outlined in G.S. 143-64.31. This program shall not apply to contracts established by the State or any agency of the State.

(b) If any section, subsection, clause or provision of this chapter, including those groups found to be presumptively socially disadvantaged, is held to be invalid by a court of competent jurisdiction, the remainder of the chapter shall not be affected by such invalidity.

II. Definitions.

As used in this part, the following terms shall have the following meanings:

Affiliation - One firm controls or has the power to control the other, or a third party or parties controls or has the power to control both, or an identity of interests exists between such firms. In determining whether firms are Affiliates, the City shall consider all appropriate factors, including common ownership, common management, and contractual relationships. Affiliates must be considered together in determining whether a firm is a Small Business Enterprise.

Bidder/Participant - Any person, firm, partnership, corporation, limited liability company, association or joint venture seeking to be awarded a public contract or subcontract.

Brokering - Filling orders by purchasing or receiving supplies from a third party supplier rather than out of existing inventory, and providing no Commercially Useful Function other than acting as a conduit between a supplier and a customer.

City - The awarding authority for contracts awarded by the City of Fayetteville.

City's Marketplace - The geographic and procurement areas in which the City contracts on an annual basis.

Commercially Useful Function - Responsibility for the execution of a distinct element of the work of the contract which is carried out by actually performing, managing, and supervising the work involved, or fulfilling responsibilities as a joint venture.

Contract - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment or services and obligating the buyer to pay for them, not including leases or emergency procurements.

Doing Business - Having a physical location from which to engage in for profit activities in the scope(s) of expertise of the firm.

Economically Disadvantaged - An individual whose Personal Net Worth is less than the amount identified in 49 CFR Part 26

Equipment - Materials, supplies, commodities and apparatuses.

Expertise - Demonstrated skills, knowledge, or ability to perform in the field of endeavor in which certification is sought by the firm as defined by normal industry practices, including licensure where required.

Good Faith Efforts - Actions undertaken by a Bidder/Participant to achieve a SDBE goal which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the Program's requirements.

Joint Venture - An association of two or more persons, or any combination of types of business enterprises and persons numbering two or more, proposing to perform a single for profit business enterprise, in which each joint venture partner contributes property, capital, efforts, skill and knowledge, and in which the SDBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture is commensurate with its ownership interest. Joint ventures must have an agreement in writing specifying the terms and conditions of the relationships between the partners and their relationship and responsibility to the contract.

Managers - The City Manager.

Manufacturer - A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

Personal Net Worth - The net value of the assets of an individual after total liabilities are deducted. An individual's Personal Net Worth does not include the individual's ownership interest in an applicant or the individual's equity in his or her primary place of residence. An individual's Personal Net Worth includes only his or her share of assets held jointly with the individual's spouse.

Program - The SDBE Program.

Project Specific Goal - The Goal established for a particular project or contract based upon the availability of SDBEs in the scopes of work of the Contract.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a Regular Dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A firm may be a Regular Dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of a Regular Dealer's distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis. Packagers, manufacture representatives, or other persons who arrange or expedite transactions are not Regular Dealers.

Schedule of Participation - The list of SDBEs that the Bidder/Participant commits will be utilized, their scopes of the work, and dollar value or the percentage of the project they will perform.

Socially Disadvantaged - An individual who has been subjected to racial or ethnic prejudice or cultural bias within American society because of his or her identity as a member of a group and without regard to individual qualities. Social disadvantage must stem from circumstances beyond the individual's control. A Socially Disadvantaged individual must be a citizen or lawfully admitted permanent resident of the United States who is either:

(a) A person whose lifelong cultural and social affiliation is with one of the following groups, which are rebuttably presumed to be Socially Disadvantaged:

(i) Blacks/African - Americans (persons having origins in any of the Black racial groups of Africa);

(ii) Hispanic - Americans (persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race);

(iii) Native - Americans (persons having origins in the original groups of North America);

(iv) Asian - Americans (persons having origins in any of the original groups of the Far East, Southeast Asia, the islands of the Pacific or the Indian Subcontinent);

(v) Women; or

(b) Any socially disadvantaged individual as defined by 15 U.S.C. 637.

Small Disadvantaged Business Enterprise (SDBE) - Means a business, including a sole proprietorship, partnership, corporation, limited liability company, joint venture or any other business or professional entity:

(a) Which is at least 51 percent owned by one or more Socially and Economically Disadvantaged individuals, or in the case of a publicly owned business, at least 51 percent of all classes of the stock of which is owned by one or more Socially and Economically Disadvantaged individuals;

(b) Whose management, policies, major decisions and daily business operations are independently managed and controlled by one or more such Socially and Economically Disadvantaged individuals;

(c) Which is a Small Business Enterprise as defined by 13 CFR Part 121;

(d) Which is Doing Business in the City's Marketplace; and

(e) Which is certified as a SDBE by the City of Fayetteville.

SDBE Program Coordinator - The person designated by the Managers to administer the Program.

III. SDBE Program Administration.

The Coordinator shall administer the SDBE Program, which duties shall include:

(a) Formulating, proposing, and implementing rules and regulations for the further development, implementation, and monitoring of the Program.

(b) Informing SDBEs of City contracting opportunities through outreach activities.

(c) Providing information and assistance to SDBEs relating to City procurement practices and procedures, and bid specifications, requirements, and prerequisites.

(d) Certifying businesses as SDBEs, maintaining certification records, and ensuring that all City departments have current certification listings.

(e) Establishing Project Specific Goals.

(f) Evaluating Bidder/Participant's achievement of Project Specific Goals or Good Faith Efforts to meet Project Specific Goals.

(g) Working with City departments to monitor Contracts to ensure prompt payments to SDBEs, compliance with Project Specific Goals and commitments and the Program's operations and objectives.

(h) Receiving, reviewing, and acting upon complaints and suggestions concerning the Program.

(i) Collecting data to evaluate the Program.

(j) Monitoring the Program and reporting to the Managers, the Mayor and the City Council on the administration and operations of the Program.

IV. Race- and Gender-Neutral Measures to Ensure Equal Opportunities for All Bidders/Participants.

The City shall develop and use measures to facilitate the participation of all firms in City contracting activities. These measures shall include, but are not limited to:

(a) Arranging solicitation times for the presentations of bidding opportunities, which includes quantities, specifications and delivery schedules so as to facilitate the participation of interested firms.

(b) Dividing requests for bids or proposals into work elements to facilitate the participation of small firms.

(c) Providing timely information on specific contracting opportunities, contracting procedures, and bid preparation.

(d) Holding pre-bid conferences, where appropriate, to explain the projects.

(e) Enforcing prompt payment requirements and procedures, including requiring by contract that prime contractors promptly pay subcontractors.

(f) Reviewing bonding and insurance requirements to eliminate unnecessary barriers to contracting with the City.

(g) Maintaining information on all firms bidding on City prime contracts and subcontracts.

V. SDBE Program Eligibility.

(a) Only businesses that meet the criteria of SDBEs may participate in the Program.

(b) The City shall apply the certification criteria and procedures of 49 CFR Part 26 to applicants for participation in the Program.

(c) The City shall certify the eligibility of joint ventures involving SDBEs and non-SDBEs.

(d) In lieu of conducting its own certifications, the Coordinator may accept formal certifications by other entities as meeting the requirements of the Program, if the eligibility standards of such entities are comparable to those of the City. Certification decisions, including decertification and graduation determinations, by those other entities shall be accepted by the City in its discretion.

(e) It is the responsibility of the SDBE to notify the Coordinator of any change in its circumstances affecting its continued eligibility for the Program. Failure to do so may result in the firm's decertification.

(f) A SDBE may be decertified if it submitted inaccurate, false, or incomplete information to the City or failed to comply with requirements of a contract with the City or with the requirements of the Program.

(g) A third party may challenge the eligibility of a certified firm:

(1) The challenge shall be made in writing under oath and shall include all information relied upon by the challenging party.

(2) The Coordinator shall provide an opportunity to the parties for an informal hearing. The parties may appear and provide documentation or other evidence and be represented by counsel.

(3) The Coordinator shall render a written decision within 15 days of the hearing.

(4) If the Coordinator determines that the firm is not eligible, it may appeal the determination to the Manager in writing within 7 days of receipt of the written decision. The challenging party shall have no right of appeal from the Coordinator’s determination.

(5) The Manager shall issue a written decision within 15 days of receipt of the appeal. The Manager’s determination shall be final.

(h) A firm that has been decertified may not reapply for certification for one year from the effective date of its decertification.

VI. SDBE Goal Setting.

The Coordinator shall establish a Project Specific Goal for appropriate Contracts based on normal industry practice as determined in consultation with the appropriate Department, the availability of SDBEs to perform the functions of the Contracts and the City's utilization of SDBEs to date.

VII. Counting Participation of SDBEs.

(a) The entire amount of that portion of a construction Contract that is performed by the SDBE’s own forces shall be counted, including the cost of equipment obtained by the SDBE for the work of the Contract, and equipment purchased or leased by the SDBE (except equipment the SDBE subcontractor or Joint Venture partner purchases or leases from the prime contractor or its Affiliate).

(b) The entire amount of fees or commissions charged by a SDBE for providing a bona fide service, such as professional, technical, consultant or managerial services, or for providing bonds or insurance specifically required for the performance of the Contract, shall be counted, provided the fee is reasonable and not excessive as compared with fees customarily charged for similar services.

(c) When a SDBE performs as a participant in a Joint Venture, only the portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the work of the Joint Venture's Contract that the SDBE performs with its own forces and for which it is separately at risk shall be counted.

(d) Only expenditures to a SDBE that is performing a Commercially Useful Function shall be counted. To determine whether a firm is performing a Commercially Useful Function, the City will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and other relevant factors. To perform a Commercially Useful Function, the SDBE must be responsible, with respect to equipment used on the Contract, for negotiating price, determining quality and quantity, ordering the material, installing (where applicable) and paying for the material itself. A SDBE does not perform a Commercially Useful Function if its role is limited to that of an extra participant in the Contract through which funds are passed in order to obtain the appearance of SDBE participation. If a SDBE subcontracts a greater portion of the work of a Contract than would be expected on the basis of normal industry practice, it is presumed not to perform a Commercially Useful Function. When a SDBE is presumed not to be performing a Commercially Useful Function, the SDBE may present evidence to rebut this presumption.

(e) One hundred percent of the cost of the materials or supplies obtained from a SDBE Manufacturer or Regular Dealer shall be counted. One hundred percent of the fees or transportation charges for the delivery of materials or supplies required on a job site shall be counted only if the payment of such fees is a customary industry practice and are commensurate with fees customarily charged for similar services. The cost of the materials and supplies shall not be counted.

(f) If a firm is decertified during performance of a Contract, the dollar value of work performed under a Contract with that firm after it has been decertified shall not be counted.

(g) In determining achievement of a Project Specific Goal, the participation of a SDBE shall not be counted until that amount has been paid to the SDBE.

VIII. Procurement of Architectural, Engineering and Surveying Services (G.S. 143-64.31)

(a) The City shall use good faith efforts to notify minority firms of the opportunity to submit qualifications for architectural, engineering, surveying and construction management at risk services.

IX. Informal Construction and Repair Work (G.S. 143-131)

(a) The City shall solicit minority participation for construction and repair projects in the amount of five thousand dollars ($5,000) or more, but less than three hundred thousand dollars ($300,000). The City shall maintain a record of contractors solicited and shall document efforts to recruit minority business participation in these contracts.

X. Formal Construction and Repair Work (G.S. 143-129)

(a) For all solicitations, the Bidder/Participant shall submit a Schedule of Participation detailing all subcontractors from which the Bidder/Participant solicited bids or quotations, and if a Project Specific Goal has been established, its achievement of the Goal or its Good Faith Efforts to do so. The list of SDBEs provided by the City to a Bidder/Participant establishes the minimum universe from which a Bidder/Participant must solicit SDBEs. The Schedule of Participation shall be due at the time set out in the solicitation documents.

(b) Any agreement between a Bidder/Participant and a SDBE in which the Bidder/Participant requires that the SDBE not provide subcontracting quotations to other bidders/proposers is prohibited.

(c) SDBEs shall respond to relevant requests for quotations.

(d) Where the Bidder/Participant cannot achieve the Project Specific Goal, the Coordinator will determine whether the Bidder/Participant has made Good Faith Efforts. At a minimum, the Bidder/Participant must engage in the following Good Faith Efforts that total at least 50 points for the bid or proposal to be responsive.

(1) Contacting SDBEs from the list provided by the City at least ten days before the bid or proposal date and notifying them of the nature and scope of the work to be performed. The Bidder/Participant shall provide interested SDBEs with timely, adequate information about the plans, specifications, and requirements of the Contract to allow SDBEs to respond to the solicitation. The Bidder/Participant must follow up initial solicitations with interested SDBEs. 10 points.

(2) Providing or making the construction plans, specifications, and requirements available for review by SDBEs at least ten days before the bid or proposals are due. 10 points.

(3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation. 15 points.

(4) Working with SDBE, minority, women, trade, community or contractor organizations identified by the City in the bid documents that provide assistance in recruitment of SDBEs. 10 points.

(5) Attending any prebid meetings scheduled by the City. 10 points.

(6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors. 20 points.

(7) Negotiating in good faith with interested SDBEs and not rejecting them as unqualified without sound reasons based on their capabilities. Evidence of such negotiation includes the names, addresses, and telephone numbers of SDBEs that were contacted; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and why agreements could not be reached with SDBEs. The Bidder/Participant may not reject SDBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection of a SDBE based on price or lack of qualifications must be documented in writing. 15 points.

(8) Providing assistance to an otherwise qualified SDBE in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting SDBEs in obtaining the same unit pricing with the bidder's suppliers in order to help minority SDBEs to establish credit. 25 points.

(9) Negotiating joint venture and partnership arrangements with SDBEs to increase opportunities for SDBE participation. 20 points.

(10) Providing quick pay agreements and policies to enable SDBEs to meet cash-flow demands. 20 points.

(e) In determining whether a Bidder/Participant has made Good Faith Efforts, the performance of other bidders/proposers in meeting the Project Specific Goal may be considered. For example, when the apparent successful Bidder/Participant fails to meet the Project Specific Goal but others meet it, it may be reasonably questioned whether, with additional reasonable efforts, the apparent successful Bidder/Participant could have met the Goal. Similarly, if the apparent successful Bidder/Participant fails to meet the Goal, but meets or exceeds the average SDBE participation obtained by other bidders/proposers, this may be evidence that the apparent successful Bidder/Participant made Good Faith Efforts.

(f) The Coordinator shall timely review the Schedule of Participation prior to award, including the scope of work and the letters of intent from SDBEs. The Coordinator may request clarification in writing of items listed in the Schedule of Participation, provided such clarification shall not include the opportunity to augment listed SDBE participation or Good Faith Efforts.

(g) The Schedule of Participation and supporting documents shall be reviewed by a Bid Selection Committee, composed of the operating departments, Purchasing Department, Coordinator and other representatives as appropriate. If the Bid Selection Committee initially determines the bid to be responsive, it shall recommend award of the Contract to the Managers. If the Bid Selection Committee determines the bid to be non-responsive, it shall confer with the City Attorney prior to recommending the rejection of the bid.

(h) A Bidder/Participant found to be non-responsive may appeal this determination pursuant to the City's bid protest procedures.

XI. Contract Performance Compliance Procedures.

(a) Upon award of a Contract by the City that includes a Project Specific Goal, the Goal becomes a covenant of performance by the Bidder/Participant in favor of the City.

(b) The Bidder/Participant shall provide a listing of all subcontractors to be used in the performance of the Contract, and subcontractor payment information to the City with each request for payment submitted to the City. The Coordinator and the operating department shall monitor subcontractor participation during the course of the Contract and shall have reasonable access to all Contract-related documentation held by the Bidder/Participant. The Bidder/Participant shall submit reports at such times and in such formats as requested by the City.

(c) The Bidder/Participant shall cooperate with the City in studies and surveys related to the Program.

(d) The Bidder/Participant cannot make changes to the Schedule of Participation or substitute subcontractors named in the Schedule of Participation without the prior written approval of the Coordinator. Unauthorized changes or substitutions shall be a violation of this program, and may constitute grounds for rejection of the bid or proposal or cause termination of the executed Contract for breach, the withholding of payment and/or subject the Bidder/Participant to Contract penalties or other sanctions.

(1) All requests for changes or substitutions of the subcontractors named in the Schedule of Participation shall be made to the Coordinator in writing, and shall clearly and fully set forth the basis for the request. A Bidder/Participant shall not substitute a subcontractor or perform the work designated for a subcontractor with its own forces unless and until the Coordinator approves such substitution in writing.

(2) The facts supporting the request must not have been known nor reasonably should have been known by either party prior to the submission of the Schedule of Participation. Bid shopping is prohibited.

(3) Substitutions of the subcontractor shall be permitted only on the following basis:

(i) Unavailability after receipt of reasonable notice to proceed.

(ii) Failure of performance.

(iii) Financial incapacity.

(iv) Refusal by the subcontractor to honor the bid or proposal price.

(v) Mistake of fact or law about the elements of the scope of work of a solicitation where agreement upon a reasonable price cannot be reached.

(vi) Failure of the subcontractor to meet insurance, licensing, or bonding requirements; or

(vii) The subcontractor's withdrawal of its bid or proposal.

(4) Where the Bidder/Participant has established the basis for the substitution to the satisfaction of the Coordinator, the Bidder/Participant shall make Good Faith Efforts to fulfill the Schedule of Participation if the Project Specific Goals will not otherwise be met. The Bidder/Participant may seek the assistance of the SDBE Office in obtaining a new SDBE subcontractor. If the Project Specific Goal cannot be reached and Good Faith Efforts have been made, the Bidder/Participant may substitute with a non-SDBE.

(e) If a Bidder/Participant plans to hire a subcontractor on any scope of work that was not previously disclosed in the Schedule of Participation, the Bidder/Participant shall obtain the approval of the Coordinator to modify the Schedule of Participation and must make Good Faith Efforts to ensure that SDBEs have a fair opportunity to bid on the new scope of work.

(f) The SDBE Compliance Committee, comprised of the Coordinator as the Chair and a representative from the Purchasing Department or any requested representative, shall be responsible for evaluating and reviewing issues and concerns concerning the Program, including whether a Bidder has complied with the Good Faith Efforts.

(g) If the Bidder/Participant is found to be in noncompliance with the Program or the Contract and fails to correct such noncompliance within ten working days after written notification, the City will withhold 5 percent of the amount of completed work on all monthly payments until the Bidder/Participant has come into compliance.

XII. Protest Procedure.

A Bidder/Participant may protest a decision regarding the implementation of the Program, including the determination that it has not made Good Faith Efforts, by filing a written grievance with supporting evidence with the Coordinator. The Coordinator shall provide a written response within ten working days of receipt of the grievance. The Bidder/Participant may appeal the Coordinator's determination in writing within ten working days of receipt to the Purchasing Director. The Director shall refer the grievance to the SDBE Compliance Committee, which shall hold a hearing and issue a written recommendation within ten working days. The Manager, upon receipt of the SDBE Compliance Committee's recommendation, shall make a final determination within ten working days.

XIII. Dispute Resolution.

Not-withstanding the protest procedures outlined above, mediation shall be required for all parties involved in a dispute under this program prior to initiating litigation concerning the dispute. The procedures for mediation shall be those adopted by City Council Resolution #2002-066 which is incorporated herein by reference as if fully set forth herein.

XIV. Penalties.

(a) Providing false or misleading information to the City in connection with an application for or challenge to certification, recertification or decertification as a SDBE, submission of a bid, responses to requests for qualifications or proposals, Good Faith Efforts documentation, post-award compliance, or other actions in violation of this program may render any bid award or contract void. A contract that is void under this section may continue in effect until an alternative can be arranged when immediate termination would result in harm to the public health or welfare.

(b) A Bidder/Participant is subject to withholding of payments under the Contract, termination of the Contract for breach, Contract penalties, decertification as a SBDE, or being barred or deemed non-responsive in future City solicitations and Contracts for up to two years, if it is found to have:

(1) Provided false or misleading information in connection with the submission of a bid or proposal or documentation of Good Faith Efforts, post-award compliance, or other Program operations.

(2) Failed in bad faith to fulfill the Project Specific Goal, thereby materially breaching the Contract.

(4) Repeatedly failed to comply in good faith with substantive provisions of this program.

(c) The City reserves the right to pursue all remedies available in law or in equity for violations of this program.

XV. Program Review.

(a) The Managers, the Mayor, and the City Council shall receive an annual report from the Coordinator detailing the City's performance under the Program.

(b) The Managers, the Mayor, and the City Council will review this report, including the City's progress towards eliminating discrimination in its contracting activities and marketplace, and revise the Program as necessary to meet legal and Program requirements.

(c) If the Managers, the Mayor, and the City Council find that the objectives of the Program have been achieved, the City Council shall sunset the Program.

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid

CITY OF FAYETTEVILLE
SDBE COMPLIANCE PROVISIONS

SDBE CONTRACT PROVISIONS (CONSTRUCTION)

APPLICATION:

The requirements of the Small Disadvantaged Business Program for participation in the City of Fayetteville's construction contracts are hereby made a part of these contract documents. These requirements shall apply to all contracts regardless of ownership. Copies of the Program may be obtained from:

City of Fayetteville
Purchasing Division
433 Hay Street
Fayetteville, NC 28301
E-mail: kimberlytoon@fayettevillenc.gov

SDBE COMPLIANCE REQUIREMENTS

1. The Bidder shall provide, **with the bid**, the SDBE CONTRACT PROVISIONS (CONSTRUCTION), properly executed which signifies that the Bidder understands and agrees to the incorporated SDBE contract provisions.

2. The Bidder shall provide **with the bid**:

   - Affidavit B – INTENT TO PERFORM CONTRACT WITH OWN WORKFORCE, in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type project and will perform all elements of the work with his/her own current work forces; ***and***

   - IDENTIFICATION OF SMALL DISADVANTAGED BUSINESS PARTICIPATION – This certifies that on this project listed small disadvantaged business enterprises will be used as construction subcontractors, vendors, suppliers, or providers of professional services. Enter zero dollars indicating no SDBE's are being used with this project; or

   - Affidavit A – LISTING OF GOOD FAITH EFFORTS **AND** IDENTIFICATION OF SMALL DISADVANTAGED BUSINESS PARTICIPATION, as certification that those small disadvantaged businesses listed will be used on this project.

3. Upon being named apparent low Bidder, The Bidder shall provide:

   - Affidavit C – PORTION OF WORK TO BE PERFORMED BY SMALL DISADVANTAGED FIRMS, if the portion of the work to be executed by SDBE's is **equal to or greater** than 10% of the Bidders total contract price; or,

   - Affidavit D – GOOD FAITH EFFORTS, if the goal of 10% participation by SDBE's **is not** achieved.

All written statements, certifications or intentions made by the Bidder shall become part of the agreement between the Contractor and the City of Fayetteville for performance of this Contract. Failure to comply with any of these statements, certifications or intentions, or with the SDBE compliance provisions shall constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the City of Fayetteville whether to terminate the contract for breach.

Subcontractor Payment Requirements:

North Carolina General Statues 143-134.1 (N.C.G.S.) states that the percentage of retainage on payments may by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the City of Fayetteville to the prime contractor. Failure to comply with this provision shall be considered a breach of contract, and the contract may be terminated in accordance with the termination provisions of the contract.

The Contractor shall provide an itemized statement of payments to each SDBE subcontractor before final payment is processed.

Date:_____

_____

(Name of Company)

_____

(Signature)

Attest:_____ _____

(Above Name Typed or Printed)

_____

(Title)

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid

City of Fayetteville
Affidavit A – Listing of the Good Faith Efforts

Affidavit of_____
(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:
(A minimum of 50 value points must be checked in order to have achieved a "good faith effort")

- □ (1) Contacting minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor or available on State or local government maintained lists at least 1 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed. **Value = Ten (10) points.**
- □ (2) Making the construction plans, specification and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bid or proposals are due. **Value = Ten (10) Points.**
- □ (3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation. **Value = Fifteen (15) points.**
- □ (4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment or minority businesses. **Value= Ten (10) points.**
- □ (5) Attending any pre-bid meetings scheduled by the public owner. **Value = Ten (10) points.**
- □ (6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors. **Value = Twenty (20) points.**
- □ (7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing. **Value = Fifteen (15) points.**
- □ (8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit. **Value = Twenty-five (25) points.**
- □ (9) Negotiating joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible. **Value = Twenty (20) points.**
- □ (10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands. **Value = Twenty (20) points.**

In accordance with GS143-128.2 (d) the undersigned will enter into a formal agreement with the firms listed in the Identification of Small Disadvantaged Business Participation schedule conditional upon execution of a contract with the Owner. Failure to abide by this statutory provision will constitute a breach of the contract. The undersigned hereby certifies that he or she has read the terms of the Small Disadvantaged Business Commitment and is authorized to bind the Bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

SEAL

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

My commission expires _____

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid

CITY OF FAYETTEVILLE
SDBE COMPLIANCE PROVISIONS
AFFIDAVIT B
Intent to Perform Contract with Own Workforce

Affidavit of

_____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the contract_____

_____

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type of project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and will complete all elements of this project without the use of subcontractors, materials suppliers or providers of professional services.

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

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

Date:_____Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

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

THIS FORM IS NOT TO BE SUBMITTED WITH THE BID PROPOSAL

CITY OF FAYETTEVILLE
SDBE COMPLIANCE PROVISIONS
AFFIDAVIT C

PORTION OF THE WORK TO BE PERFORMED BY SMALL DISADVANTAGED FIRMS

If the portion of the work to be executed by small disadvantaged businesses as defined in G.S. 143-128.2(g) is equal to or greater than 10% of the Bidders total contract price, then them Bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive Bidder within **72 hours** after notification of being low Bidder.

Affidavit of_____I do certify that on the
(Name of Company)

_____ $ _____
(Project Number) (Dollar Amount of Bid)

I will expend a minimum of _____% of the total dollar amount of the contract with small disadvantaged business enterprises. SDBE's will be employed as subcontractors, vendors, or providers of professional services. Such work will be subcontracted to the following firms listed below.

Name, Address, and Phone No.	SDBE Category	Description	Dollar Value	Percent of Contract

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian-Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

Pursuant to G.S. 143-128.2(d), the undersigned will enter into a formal agreement with small disadvantaged firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

CITY OF FAYETTEVILLE

SDBE COMPLIANCE PROVISIONS
AFFIDAVIT D

Good Faith Efforts

If the goal of 10% participation by small disadvantaged businesses is not achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts.			
			Value

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian-Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions. Examples of documentation shall include the following evidence:

A. Copies of solicitation for quotes to small disadvantaged business firms. Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
B. Copies of quotes or responses received from each firm responding to the solicitation.
C. A telephone log of follow-up call to each firm sent a solicitation.
D. For subcontracts where a small disadvantaged business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
E. Documentation of any contracts or correspondence to small disadvantaged businesses, community or contractor organizations in an attempt to meet the goal.
F. Copy of pre-bid roster.
G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for small disadvantaged businesses.
H. Letter detailing reasons for rejection of a small disadvantaged business due to lack of qualification.
I. Letter documenting proposed assistance offered to small disadvantaged businesses in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

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

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

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

CITY OF FAYETTEVILLE

SDBE COMPLIANCE PROVISIONS
AFFIDAVIT E

SDBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor:_____
Address and Phone:_____
Project Name: _____
Pay Application #_____ Period: _____

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

Firm Name and Address	***SDBE Category**	**Payment**	**Owner Use Only**

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian-Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

Date:_____ Approved/Certified By:_____
(Name)

_____
(Title)

_____
(Signature)

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

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid

CITY OF FAYETTEVILLE
SDBE COMPLIANCE PROVISIONS

Identification of Small Disadvantaged Business Participation

I, _____
(Name of Bidder)

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

Firm Name, Address and Phone No.	Description	*SDBE Category

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian-Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

The total value of small disadvantaged business contracting will be ($)_____.

00 41 12 BIDDER'S CHECK-LIST

☐ *Section 00 41 00 SDBE Program Requirements* – Execute Affidavits A and B as applicable.

☐ *Section 00 41 14 Bid Form* – Complete and sign to acknowledge receipt of Addenda, sign document where indicated for Bid Delivery, and verify that the phone number and email address for giving notice are accurate.

☐ *Section 00 41 16 Bid Form Exhibit A* – Complete and sign where indicated.

☐ *Section 00 41 19 Bid Bond* – Complete and sign where indicated.

☐ *BID PROVISIONS*

☐ Required Bidder Qualification Statement with supporting data

☐ *Section 00 45 01 Nonresident Bidders* – Mark where applicable and sign and date where indicated.

☐ *Section 00 45 02 Non-Collusion Certification* - Sign document where indicated and verify that the business address, phone number, and email address are accurate.

☐ *Section 00 45 03 E-Verify* – Mark where applicable and sign and date where indicated.

☐ Evidence of authority to do business in the state of the Project

☐ *Section 00 45 06 Debarment, Suspension, and Other Responsibility Matters* – Complete, Sign and date where indicated.

☐ Documentation showing that the Offeror is currently licensed as a general contractor in the State of North Carolina, including the license limitations and classifications.

END OF SECTION

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BID FORM FOR CONSTRUCTION CONTRACT

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

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to: City of Fayetteville, North Carolina, located at City Hall, 433 Hay Street, Fayetteville, NC, 28301.

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

ARTICLE 2—ATTACHMENTS TO THIS BID

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

A. Section 00 41 00 SDBE Program Requirements – Execute Affidavits A and B as applicable

B. *Section 00 41 14 Bid Form* – Complete and sign to acknowledge receipt of Addenda, sign documents where indicated for Bid Delivery, verify that the phone number and email address for giving notice are accurate, and Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids

C. *Section 00 41 16 Bid Form Exhibit A* – Complete and sign where indicated

D. *Section 00 41 19 Bid Bond* – Complete and sign where indicated

E. Bid Provisions

F. Required Bidder Qualification Statement with supporting data

G. *Section 00 45 01 Nonresident Bidders* – Mark where applicable and sign and date where indicated

H. *Section 00 45 02 Non-Collusion Certification* - Sign document where indicated and verify that the business address, phone number, and email address are accurate.

I. *Section 00 45 03 E-Verify* – Mark where applicable and sign and date where indicated.

J. Evidence of authority to do business in the state of the Project

K. *Section 00 45 06 Debarment, Suspension, and Other Responsibility Matters* – Complete, sign and date where indicated

L. Documentation showing that the Offeror is currently licensed as a general contractor in the State of North Carolina, including the license limitations and classifications

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

3.01 *Unit Price Bids*

A. Bidder will perform the following Work at the indicated unit prices in 00 41 16 Bid Form Exhibit

B. Bidder acknowledges that:

1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. Estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.02 *Total Bid Price (Unit Prices)*

Total Bid Price (Total of all Lump Sum and Unit Price Bids) in figures:	$
Total Bid Price (Total of all Lump Sum and Unit Price Bids) in writing:	

ARTICLE 4—TIME OF COMPLETION

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

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

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

5.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

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

5.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

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

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

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

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

8. 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.

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

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

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
    a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
    b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
    c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
    d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

[Signature page to follow]

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____

(typed or printed name of organization)

By: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

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

Attest: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

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

00 41 16 Bid Form Exhibit A

Project:	Breezewood Avenue Sidewalk Improvements		**Project No.:**
Owner:	City of Fayetteville		
Engineer:	Byron Reeves		
Offeror:			

Base Bid

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Amount
Items in Base Bid (excluding Allowances) per Section 01 29 01 "Measurement and Basis for Payment"					
A-01	Traffic Control	LS	1		
A-02	Erosion Control	LS	1		
A-03	Clearing & Grubbing	LS	1		
A-04	Remove Existing Curb & Gutter	LF	130		
A-05	Remove Existing Driveway Apron	SY	16		
A-06	Remove Existing Concrete	SY	60		
A-07	Remove Existing Asphalt	SY	87		
A-08	Remove Existing Fence	LF	160		
A-09	Remove Bollard	EA	1		
A-10	Remove Brick	SY	162		
A-11	Excavation, Backfilling, Grading	LS	1		
A-12	Concrete Curb & Gutter (30 in. Vertical)	LF	77		
A-13	Concrete Driveway Apron	SY	16		
A-14	Concrete Sidewalk (4-5 ft. wide, 4 in thick)	SY	402		
A-15	Curb Ramp (Blended Transition)	EA	2		
A-16	Truncated Domes	EA	8		
A-17	Install Permanent Pavement Patch	TN	1		
A-18	Install Fence Post/Repair Fence (Black Chain Link)	LS	1		
A-19	Sod	SY	318		
A-20	Relocate Existing Street Sign	EA	3		
A-21	Adjust Water Meter	EA	2		
A-22	Adjust Cleanout	EA	2		
A	**Total Base Bid Items Amount (Sum of Extended Amounts for each Base Bid Line Item) in Figures: (I.E. 1,727,850.00)**				$ -
	Total Base Bid Items Amount (Sum of Extended Amounts for each Base Bid Line Item) in Writing:				
	I.E. One Million Seven Hundred Twenty-Seven Thousand Eight Hundred Fifty Dollars and No Cents				

BID SUBMITTED BY:

Offeror: _____

Signature: _____

Printed Name: _____

Title: _____

Date: _____

BID BOND (PENAL SUM FORM)

Bidder Name: **[Full formal name of Bidder]** Address *(principal place of business)*: **[Address of Bidder's principal place of business]**	**Surety** Name: **[Full formal name of Surety]** Address *(principal place of business)*: **[Address of Surety's principal place of business]**
Owner Name: **[Full formal name of Owner]** Address *(principal place of business)*: **[Address of Owner's principal place of business]**	**Bid** Project *(name and location)*: **[Owner project/contract name, and location of the project]** Bid Due Date: **[Enter date bid is due]**
Bond Penal Sum: **[Amount]** Date of Bond: **[Date]**	
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
_____ *(Full formal name of Bidder)*	_____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature) (Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
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.

00 45 01 NONRESIDENT BIDDERS

NCGS §143-59 applies to the award of government contracts to nonresident bidders. This law provides that:

"For the purpose only of determining the low bidder on all contracts for equipment, materials, supplies, and services valued over twenty-five thousand dollars ($25,000), a percent of increase shall be added to a bid of a non-resident bidder that is equal to the percent of increase, if any, that the state in which the bidder is a resident adds to bids from bidders who do not reside in that state.

1. Resident bidder - A bidder that has paid unemployment taxes or income taxes in this State and whose principle place of business is located in this State."
2. Nonresident bidder - A bidder that is not a resident bidder as defined in subdivision (1) of this subsection."
3. Principal place of business - The principal place from which the trade or business of the bidder is directed or managed."

Check the statement that is correct for Offeror:

☐ Offeror (includes parent company or majority owner) qualifies as a resident bidder whose principal place of business is in North Carolina.

☐ Offeror qualifies as a nonresident bidder whose principal place of business or residency is in the state of: _____

Bidder preferences, if any, will be determined in accordance with NCGS §143-59 and the North Carolina Secretary of Administration's annual list of states that give preference to in-state bidders.

Offeror: _____
(typed or printed name of organization)

Signature: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed

Business Address:

_____

_____

_____

Phone: _____ Email: _____

(Attach evidence of authority to sign if Offeror is a corporation, partnership, or a joint venture.)

END OF SECTION

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00 45 02 NON-COLLUSION CERTIFICATION

STATE OF North Carolina §

COUNTY OF Cumberland §

Owner: **City of Fayetteville**
433 Hay Street
Fayetteville, NC 28301

Contract: **Breezewood Avenue Sidewalk**

Offeror certifies that it has not been a party to any collusion among Offerors in the restraint of freedom of competition by agreement to submit a Bid or Proposal at a fixed price or to refrain from submitting a Bid or Proposal; or with any official or employee of the Owner as to quantity, quality, or price in the prospective contract, or any other terms of said prospective contract; or in any discussion between Offerors and any official of the Owner concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Certified this _____ day of _____ 20 ____ .

Offeror: _____
(typed or printed name of organization)

Signature: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed

Business Address:

_____

_____

_____

Phone: _____ Email: _____

(Attach evidence of authority to sign if Offeror is a corporation, partnership, or a joint venture.)

END OF SECTION

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00 45 03 E-VERIFY

This E-Verify Certification is provided to Owner by Contractor as a prerequisite to Owner considering Contractor for award of Contract.

1. Contractor understands that:
    a. E-Verify is the federal program operated by the United States Department of Homeland Security and other federal agencies to enable employers to verify the work authorization of newly hired employees pursuant to federal law, as modified from time to time.
    b. Article 2 of Chapter 64 of the North Carolina General Statutes requires employers that transact business in this state and employ 25 or more employees in this state to: (i) verify the work authorization of newly hired employees who will be performing work in North Carolina through E-Verify; and (ii) maintain records of such verification (the "E-Verify Requirements"). Section 126-7.1 of the North Carolina General Statutes requires state agencies to verify their employees' work statuses through E-Verify.
    c. North Carolina General Statute 160A-20.1(b) prohibits Owner from entering into contracts unless Contractor and all Subcontractors comply with the E-Verify Requirements.
2. As a condition of being considered for Contract, Contractor certifies that:
    a. If Contractor has 25 or more employees working in North Carolina (whether now or at any time during the term of the Contract), Contractor has complied and will comply with the E-Verify Requirements with respect to Contractor's employees working in North Carolina; and
    b. Regardless of how many employees Contractor has working in North Carolina; Contractor will take appropriate steps to ensure that each Subcontractor performing work on the Contract that has 25 or more employees working in North Carolina complies with the E-Verify Requirements.
3. Contractor acknowledges that Owner will be relying on this Certification in entering into the Contract, and that Owner may incur expenses and damages if Owner enters into the Contract with Contractor and Contractor, or any Subcontractor, fails to comply with the E-Verify Requirements. Only in the manner and to the extent permitted by the North Carolina Tort Claims Act, N.C.G.S. § 143-291, et seq., and without waiver of its sovereign immunity, Contractor agrees to indemnify and save Owner harmless from and against all losses, damages, costs, expenses obligations, duties, fines and penalties (collectively "Losses") arising directly or indirectly from violation of the E-Verify Requirements by Contractor or any of its Subcontractors, including without limitation any Losses incurred as a result of the Contract being deemed void.

[Signature page to follow]

Offeror: _____

(typed or printed name of organization)

Signature: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed

Business Address:

_____

_____

_____

Phone: _____ Email: _____

(Attach evidence of authority to sign if Offeror is a corporation, partnership, or a joint venture.)

END OF SECTION

00 45 04 STATE SALES TAX REQUIREMENTS

ARTICLE 1 – PROCEDURE FOR REPORTING NORTH CAROLINA SALES TAX EXPENDITURES

1.01 The following procedure for handling the North Carolina sales tax is applicable to this Project. The Contractor and its Subcontractors must comply fully with the requirements outlined in this Section, so that the Owner may recover the full amount of reimbursable taxes permitted by state law. For the purposes of this Section, "sales taxes" means sales and use taxes paid to the State of North Carolina or to local governments in North Carolina.

1.02 Reimbursable sales taxes are to be excluded from the Bid or Proposal for this Project. Contractor must include all other applicable sales and use taxes and other related costs in its Bid or Proposal.

1.03 Owner 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 Owner for those sales taxes for which the State will grant a refund to the Owner. The Owner will reimburse the Contractor, and the Owner later obtains a refund from the State.

1.04 Contractor must furnish the Owner documentary evidence showing the materials used and sales tax paid by the Contractor and each Subcontractor. 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 must be listed separately.

1.05 The documentary evidence must be in the form of the Reimbursable Sales and Use Tax Statement provided by the Engineer. This evidence must consist of a certified statement, by the Contractor and each Subcontractor 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 must be listed separately from county sales tax. If more than one county is shown, each county must be listed separately. The invoices must be provided to substantiate the information on the statement.

1.06 Materials used from the warehouse stock of the Contractor or its Subcontractors must be shown in a certified statement at warehouse stock prices.

1.07 Contractor will not be required to certify Subcontractor statements. However, any Subcontractor may submit for reimbursement by certifying a Reimbursable Sales and Use Tax Statement, submitting it to the Contractor for the Contractor to submit with the pay application for the properties listed on that form. The Owner will make the reimbursement payable to the Contractor.

1.08 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 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 NCGS §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.

1.09 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 must 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.

1.10 If the State refuses to refund any such sales tax to the Owner, or if after a refund is made, the Owner is told to return a refund to the State, the Contractor must upon demand repay the Owner for the amount of the failed refunds.

1.11 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.

1.12 Contractor to whom an award is made on this Project will be required to follow the procedure outlined above.

END OF SECTION

North Carolina Reimbursable Sales and Use Tax Statement by Subcontractor

Project _____ **Project Number**

Owner _____

Contractor _____

Engineer _____

Project County Cumberland **Application No.** _____ **Application Period** _____ to _____

Purchase Date	Vendor	Type of Property	County*	Invoice No.	Invoice Amount	State Tax Paid	County Tax Paid	Total Tax Paid
				Totals				

** For property purchased in N.C., enter the county in which property was purchased. For property purchased in other states, enter the N.C. county in which property was used.*

The undersigned individual certifies that: (1) 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 North Carolina state and local sales and use taxes that the Subcontractor has paid; (2) the above listed vendors were paid sales tax upon purchases of building materials during the period covered by the Application for Payment, and the property upon which such taxes were paid with or will be used in the performance of this Contract; (3) no tax on purchases or rentals of tools and/or equipment is included in the above list; (4) all of the material above became a part of the Work constructed for this Project; and (5) all of the information on this form, and any additional pages added to this page, if any, is true and accurate.

Subcontractor _____ **Signature** _____ **Date** _____

00 45 06 DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Primary Participant, _____ (major third party contractor), certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

2. Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction or records, making false statements, or receiving stolen property;

3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and

4. Have not within a three-year period preceding this application/Bid had one or more public transactions (Federal, State or local) terminated for cause or default. (If the primary participant is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT _____ CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET. SEQ. ARE APPLICABLE THERETO.

[Signature Page to Follow]

Offeror: _____
(typed or printed name of organization)

Signature: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed

Business Address:

_____

_____

_____

Phone: _____ Email: _____

(Attach evidence of authority to sign if Offeror is a corporation, partnership, or a joint venture.)

END OF SECTION

00 45 13 Qualifications statement

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

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

1.02 Provide information on the Business's organizational structure:

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

1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

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

Address:	

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

Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

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

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

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

Certification		Certifying Agency	Certification Date
☐ Disadvantaged Business Enterprise			
☐ Small Business Enterprise			
☐ Disabled Business Enterprise			
☐ Veteran-Owned Business Enterprise			
☐ Service-Disabled Veteran-Owned Business			
☐ HUBZone Business (Historically Underutilized) Business			
☐ Other			
☐ None			

ARTICLE 4—SAFETY

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

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

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

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

ARTICLE 5—FINANCIAL

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

Financial Institution:		
Business address:		
Date of Business's most recent financial statement:		☐ Attached
Date of Business's most recent audited financial statement:		☐ Attached
Financial indicators from the most recent financial statement		
Contractor's Current Ratio (Current Assets ÷ Current Liabilities)		
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)		

ARTICLE 6—SURETY INFORMATION

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

Surety Name:			
Surety is a corporation organized and existing under the laws of the state of:			
Is surety authorized to provide surety bonds in the Project location?	☐ Yes ☐ No		
Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? ☐ Yes ☐ No			
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 7—INSURANCE

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

Name of insurance provider, and type of policy (CLE, auto, etc.):			
Insurance Provider		Type of Policy (Coverage Provided)	
Are providers licensed or authorized to issue policies in the Project location?		☐ Yes ☐ No	
Does provider have an A.M. Best Rating of A-VII or better?		☐ Yes ☐ No	
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 8—CONSTRUCTION EXPERIENCE

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

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

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

Years of experience with projects like the proposed project:				
As a general contractor:		As a joint venturer:		
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:				
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No				
Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No				
Been released from a bid in the past 5 years? ☐ Yes ☐ No				
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☐ No				
Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☐ No				
Been a party to any currently pending litigation or arbitration? ☐ Yes ☐ No				
Provide full details in a separate attachment if the response to any of these questions is Yes.				

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

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

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

ARTICLE 9—REQUIRED ATTACHMENTS

9.01 Provide the following information with the Statement of Qualifications:

A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.

B. Diverse Business Certifications if required by Paragraph 3.01.

C. Certification of Business's safety performance if required by Paragraph 4.02.

D. Financial statements as required by Paragraph 5.01.

E. Attachments providing additional information as required by Paragraph 8.02.

F. Schedule A (Current Projects) as required by Paragraph 8.03.

G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.

H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.

I. Additional items as pertinent.

[Signature Page to Follow]

This Statement of Qualifications is offered by:

Business: _____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(date signed)

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

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

_____

_____

_____

Designated Representative:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

_____

_____

_____

Phone: _____

Email: _____

Schedule A—Current Projects

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

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

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

Schedule B—Previous Experience with Similar Projects

Name of Organization				
Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization				
Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule C—Key Individuals

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

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

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

Sign and Attach to Bid

CITY OF FAYETTEVILLE GENERAL TERMS

ASSIGNMENT

It is the intent of this Contract to secure the personal services of Contractor and failure of Contractor for any reason to make the personal services available to the City of Fayetteville for the purposes described in this contract shall be cause for termination of this contract. Contractor shall not assign this Contract without prior written consent of the City of Fayetteville.

GOVERNING LAW

The validity, interpretation, and execution of this Contract and the performance of and rights accruing under this Contract are all to be governed by the laws of North Carolina.

COMPLIANCE WITH LAWS

Contractor agrees to comply with all applicable statutes, ordinances, and regulations of the United States, the State of North Carolina, the City and units of local government.

SEVERABILITY

The Parties agree that if any provision of this contract shall be held invalid for any reason, the remaining provisions shall not be affected if they may continue to conform with the purposes of this contract and the requirements of applicable law.

DEFAULT

In the event of substantial failure by Contractor to perform in accordance with the terms of this contract, City of Fayetteville shall have the right to terminate Contractor upon ten (10) days written notice in which event Contractor shall have neither the obligation nor the right to perform further services under this contract nor shall the City of Fayetteville be obligated to make any further payment for work that has not been performed.

DIVESTMENT OF COMPANIES BOYCOTTING ISRAEL OR INVESTING IN IRAN CERTIFICATION

Contractor certifies that: (i) it is not identified on the Final Divestment List or any other list of prohibited investments created by the NC State Treasurer pursuant to N.C.G.S. 147-86.58; (ii) it has not been designated by the NC State Treasurer pursuant to N.C.G.S. 147-86.81 as a company engaged in the boycott of Israel ((i) and (ii) to be collectively referred to as "FD Lists"); and (iii) it will not take any action causing it to appear on the Treasurer's FD Lists created by the NC State Treasurer during the term of this Contract. By signing this Contract, Contractor further agrees, as an independent obligation, separate and apart from this Contract, to reimburse the City for any and all damages, costs and attorneys' fees incurred by the City in connection with any claim that this Contract or any part thereof is void due to Contractor appearing on the Treasurer's FD Lists at any time before or during the term of this Contract.

E-VERIFY

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

subsequently hired by Contractor shall comply with any and all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Contract.

FORCE MAJEURE

Neither Party shall be deemed to be in default of its obligations hereunder if and *so long as* it is prevented from performing such obligations by an act of war, hostile foreign actions, adverse governmental actions, nuclear explosion, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.

MORALITY CLAUSE

If, in the sole opinion of the City, at any time Contractor any of its owner(s) or employee(s) or agent(s) (collectively referenced as an "Actor") engages in any one or more of the actions below, the City may immediately upon written notice to Contractor, terminate this Contract, in addition to any other rights and remedies that the City may have hereunder or at law or in equity:

1. bring disrepute, contempt, scandal, or public ridicule to the Actor;
2. subject the Actor to prosecution;
3. offend the community or public morals/decency;
4. denigrate individuals or groups in the community served by the City;
5. is scandalous or inconsistent with community standards or good citizenship;
6. adversely affect the City's finances, public standing, image, or reputation;
7. is embarrassing or offensive to the City or may reflect unfavorably on the City; and,
8. is derogatory or offensive to one or more employee(s) or customer(s) of the City.

NON APPROPRIATION

Notwithstanding any other provisions of this Contract, the Parties agree that payments due hereunder from the City are from appropriations and monies from the City Council and any other governmental entities. In the event sufficient appropriations or monies are not made available to the City to pay the terms of this agreement for any fiscal year, this Contract shall terminate immediately without further obligation of City.

INDEMNIFICATION

To the extent permitted by law, the Contractor agrees to defend, indemnify and hold harmless the City, its elected officials, employees, agents, successors, and assigns, from any and all liability and claims for any injury or damage caused by any act, omission or negligence of the Contractor, its agents, servants, employees, contractors, licensees, or invitees. Contractor assumes entire responsibility and liability for losses, expenses, demands and claims in connection with or arising out of any injury, or alleged injury (including death) to any person, or damage, or alleged damage, to property of the City or others sustained or alleged to have been sustained in connection with or to have arisen out of or resulting from the negligence of the Contractor, his sub-contractor, agents, and employees, in the performance of the work/service set forth in the Standard Specifications and Special Provisions, and any changes, addenda, or modifications including losses, expenses or damages sustained by the City, and agrees to indemnify and hold harmless the City, its officials, employees or volunteers from any and all such losses, expenses, damages, demands and claims and agrees to defend any suit or action brought against them, or any of them, based on any such alleged injury or damage, and to pay all damages, cost and expenses in connection therewith or resulting therefrom. As an integral part of this contract, Contractor agrees to purchase and maintain during the life of this contract, contractual liability insurance in the amount required in the general liability insurance requirements and to furnish proper evidence thereof. Indemnification by the Contractor does not constitute a waiver of the City's governmental immunity in any respect under North Carolina law.

TERMINATION FOR CAUSE

In the event of substantial failure by Contractor to perform in accordance with the terms of this Contract, City of Fayetteville shall have the right to terminate Contractor upon ten calendar (10) days written notice in which event Contractor shall have neither the obligation nor the right to perform further services under this Contract nor shall the City of Fayetteville be obligated to make any further payment for work that has not

been performed. Contractor shall provide to the City of Fayetteville all reports, surveys or other related documents upon the City's request.

TERMINATION FOR CONVENIENCE

Upon thirty (30) calendar days' written notice to Contractor, the City of Fayetteville may, without cause and without prejudice to any other right or remedy legally available to the City of Fayetteville, terminate this Contract. Upon such notice, Contractor shall have neither the obligation nor the right to perform services under this Contract nor shall the City of Fayetteville be obligated to make any further payment for work that has not been performed in accordance with the terms stated herein. In such case of termination, Contractor shall be paid for the completed and accepted work executed in accordance with this Contract prior to the written notice of termination. Additionally, upon mutual agreement, Contractor may be paid for any completed and accepted work which takes place in order to achieve a specifically identified item in the scope of services or a milestone of the Contract, between the written notice of termination and the effective date of termination. Unless otherwise stated or agreed upon, the effective date of termination shall automatically occur thirty (30) days' after the written notice is sent by the City of Fayetteville. Contractor shall provide to the City of Fayetteville all reports, surveys or other related documents upon the City's request.

PROTEST

Protest related to this procurement must be addressed to the Purchasing Manager for City of Fayetteville, 433 Hay St, Fayetteville, NC 28301 and shall be received, in writing, within two (2) calendar days of bid award. Responses will be in writing by email and first-class mail not later than seven (7) calendar days following receipt of said protest by the Purchasing Manager.

SURVIVAL OF TERMS

All warranties, covenants, and representations contained within this Contract and all applicable work authorizations, if any, shall continue in full force and effect for three (3) years after the execution and delivery of the final product, act, or service taken in furtherance of this contract. Survivability shall not be impacted, or otherwise shall not be rendered null or void, by the termination or natural expiration of this Contract or other applicable work undertaken in furtherance of this Contract.

VENUE AND FORUM SELECTION

The Parties expressly agree that if litigation is brought in connection with this contract and (1) the litigation proceeds in the Courts of the State of North Carolina, the parties agree that the appropriate venue shall be in Cumberland County (Fourteenth Judicial District of North Carolina); or (2) the litigation proceeds in a federal court, the parties agree that the appropriate venue shall be the United States District Court for the Eastern District of North Carolina.

INDEPENDENT CONTRACTOR

Contractor is an Independent Contractor and shall undertake performance of the services pursuant to the terms of this contract as an Independent Contractor. Contractor shall be wholly responsible for the methods, means and techniques of performance. City shall have no right to supervise methods and techniques of performance employed by Contractor but City shall have the right to observe such performance.

AMENDMENT

The City and Contractor may, from time to time, request changes in services to be performed by Contractor. Any such changes that are mutually agreed upon by the City and Contractor shall be incorporated herein by written amendment to this Contract. It is mutually agreed and understood that no alteration or validation of the terms of this Contract shall be valid unless made in writing and signed by the Parties hereto, and that any oral understanding or agreements not incorporated herein, unless made in writing and signed by the Parties hereto, shall not be binding.

ENTIRE AGREEMENT

This Contract constitutes the entire agreement between the Parties. Any proposed change to this Contract shall be submitted to the City for its prior approval. No modification, addition, deletion, etc., to this Contract shall be effective unless and until such changes are reduced to writing and executed by the authorized officers of each Party.

EJCDC C-800 SUPPLEMENTARY TERMS SUPERSEDE

To the extent a conflict exists between the terms of the Supplementary Conditions of the Construction Contract and the terms and conditions of the EJCDC C-700 Standard General Conditions of the Construction Agreement, the terms of the Supplementary Conditions shall govern.

_____
Contractor Company (Print)

_____
Contractor Representative Name (Print)

_____
Contractor Signature

_____
Date of Signature

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

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

Prepared By

EJCDC®
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

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AMERICAN COUNCIL OF ENGINEERING COMPANIES

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Improving Project Delivery

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EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
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AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This ~~Agreement~~Contract is by and between **City of Fayetteville** ("Owner") and **[name of contracting entity]** ("Contractor").

Terms used in this ~~Agreement~~Contract have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: The installation of approximately 820 linear feet of sidewalk along the north side of Breezewood Avenue, from Purdue Drive to Forsythe Street.

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: The installation of approximately 820 linear feet of sidewalk along the north side of Breezewood Avenue, from Purdue Drive to Forsythe Street.

ARTICLE 3—ENGINEER

3.01 The Project has been designed by the City of Fayetteville and the Owner shall act as the Engineer and Resident Project Representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract.~~The Owner has retained **[insert name of engineering firm]** ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.~~

~~3.02 The part of the Project that pertains to the Work has been designed by **[insert "Engineer" if an entity has been identified as such in Paragraph 3.01, and that same entity prepared the design; or indicate by name the entity other than Engineer that prepared the design]**.~~

ARTICLE 4—CONTRACT TIMES

4.01 *Time is of the Essence*

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

B. As time is of the essence, the Contractor is required to commence W~~w~~ork to be performed under this ~~agreement~~Contract within fifteen (15) days after written notice (Notice to Proceed) from the Owner to proceed with the construction. Failure by the Contractor to complete the W~~w~~ork within the C~~c~~ontract T~~t~~ime will cause considerable damage to the Owner. Therefore, a liquidated damage charge will be assessed for each day of overrun as specified in the Special Provisions. The Contractor hereby agrees by executing the

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Ceontract that such liquidated damages are considered a just and reasonable compensation to the Owner and is not a penalty.

~~4.02 *Contract Times: Dates*~~

~~A. The Work will be substantially complete on or before **[date]**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **[date]**.~~

4.03 *Contract Times: Days*

A. The Work will be substantially complete within **150** 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 **180** days after the date when the Contract Times commence to run.

4.04 *Milestones*

A. There are no milestones as part of this Pproject. ~~Parts of the Work must be substantially completed on or before the following Milestone(s):~~

~~1. Milestone 1 **[event & date/days]**~~

~~2. Milestone 2 **[event & date/days]**~~

~~3. Milestone 3 **[event & date/days]**~~

4.05 *Liquidated Damages*

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

1. *Substantial Completion:* Contractor shall pay Owner $**1,000**~~**[number]**~~ for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.

2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $~~**[number]**~~**1,000** for each day that expires after such time until the Work is completed and ready for final payment.

3. ~~*Milestones:* Contractor shall pay Owner $**[number]** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved, or until the time specified for Substantial Completion is reached, at which time the rate indicated in Paragraph 4.05.A.1 will apply, rather than the Milestone rate.~~

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

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

~~C. *Bonus:* Contractor and Owner further recognize the Owner will realize financial and other benefits if the Work is completed prior to the time specified for Substantial Completion. Accordingly, Owner and Contractor agree that as a bonus for early completion, Owner shall pay Contractor $**[number]** for each day prior to the time specified above for Substantial Completion (as duly adjusted pursuant to the Contract) that the Work is substantially complete. The maximum value of the bonus will be limited to $**[number]**.~~

4.06 *Special Damages*

A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.

B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this ~~Agreement~~Contract.

4.07 *Actual Damages*

A. The Contractor will be required to compensate the Owner for these losses if they occur due to the Contractor's failure to reach Substantial Completion by the date specified in this ~~Agreement~~Contract.

4.08 *Weather*

A. Any adjustments of the Contract Time due to weather will be evaluated according to Section C-800 "Supplementary Conditions" SC-4.05.

ARTICLE 5—CONTRACT PRICE

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

A. ~~For all Work other than Unit Price Work, a lump sum of $**[number]**.~~

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

~~B.~~ For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).

Unit Price Work					
Item No.	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extended Price**
				$	$
				$	$
				$	$
				$	$
				$	$
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract 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.

C. Total of ~~Lump Sum Amount and~~ Unit Price Work (subject to final Unit Price adjustment) $**[number]**.

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

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions. A draft of the Applications for Payment should be submitted to the Engineer for review on or around the 25th day of the month in which the W~~w~~ork was completed. Applications for Payments must be submitted to the City of Fayetteville on or before the ~~tenth~~10th day of the month following the month in which the W~~w~~ork was completed.

6.02 *Progress Payments; Retainage*

A. The Owner will make progress payments on net 30-day terms. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 25th ~~**[ordinal number, such as 5th]**~~ day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions

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(and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

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

    a. ~~[number]~~95 percent of the value of the Work completed (with the balance being retainage).

        1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

    b. 0~~[number]~~ percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95~~[number]~~ percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100~~[number]~~ percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

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

6.04 *Consent of Surety*

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

6.05 *Interest*

A. The Owner is not obligated to pay interest on monies not paid except as provided in Chapter 143 of the North Carolina General Statutes.

~~All amounts not paid when due will bear interest at the rate of [number] percent per annum.~~

ARTICLE 7—CONTRACT DOCUMENTS

7.01 *Contents*

A. The Contract Documents consist of all of the following:

1. This ~~Agreement~~Contract.

2. Bonds:

    a. 00 52 15 Performance bond (together with power of attorney).

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b. 00 52 14 Payment bond (together with power of attorney).

3. 00 72 00 "2018 EJCDC General Conditions."

4. 00 73 00 "C-800 2018 Supplementary Conditions."

5. Specifications as listed in the table of contents of the project manual, 00 01 10 "Table of Contents."

~~General Conditions.~~

~~4. Supplementary Conditions.~~

~~5. Specifications as listed in the table of contents of the project manual (copy of list attached).~~

~~6. Drawings (not attached but incorporated by reference) consisting of **[number]** sheets with each sheet bearing the following general title: **[title on Drawings]**.~~

6. Drawings listed on the attached sheet index 00 01 15.

7. Addenda (00 91 [XX] to 00 91 [XX], inclusive). ~~Addenda (numbers **[number]** to **[number]**, inclusive).~~

8. 00 41 00 "Small Disadvantaged Business Enterprise Program and Affidavits

9. 00 45 02 "Non-Collusion Certification."

10. 00 45 03 "E-Verify Affidavit."

11. 00 45 06 "Debarment, Suspension, and Other Responsibility Matters."

12. 00 45 13 "Qualifications Statement."

13. 00 73 01 "Dispute Resolution Process – Rules Implementing Mediated Settlement Conferences"

14. Exhibits to this ~~Agreement~~ Contract (enumerated as follows):

a. Exhibit A: 00 41 16 "Bid Form Exhibit A" ~~**[list exhibits]**~~

15. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:

a. Notice to Proceed.

b. Work Change Directives.

c. Change Orders.

d. Field Orders.

e. Warranty Bond, if any.

B. The Contract Documents listed in Paragraph 7.01.A are attached to this ~~Agreement~~ Contract (except as expressly noted otherwise above).

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

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

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ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 *Contractor's Representations*

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

1. Contractor has examined and carefully studied the Contract Documents, including Addenda.

2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

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

4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

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

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

8. 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.

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

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

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

12. Contractor is not on the North Carolina State Treasurer's list of persons engaging in business activities in Iran, nor will Contractor utilize any Subcontractor on such list on this Project in violation of NCGS §147-86.55, et seq.

13. Contractor is not on the North Carolina State Treasurer's list of companies engaged in a boycott of Israel, nor will Contractor utilize any Subcontractor on such list on this Project in violation of NCGS §147-86.80, et seq.

14. Contractor has not been suspended by the State of North Carolina or any agency or department thereof for conviction or indictment of any of the offenses enumerated in NCGS §133-27 nor will award subcontracts of any tier to firms that have been suspended for conviction or indictment of any of the offenses enumerated in NCGS §133-27.

15. Contractor shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if Contractor utilizes a subcontractor, Contractor shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

8.02 *Contractor's Certifications*

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

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

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

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

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

8.03 *Standard General Conditions*

A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the

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standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

8.04 *Accounting Records*

A. Accounting Record Availability: The Contractor is to establish and maintain, in accordance with generally accepted accounting practices, full and detailed accounting records of materials incorporated into the Project, and labor, tools, materials, and equipment used for the Work, consistent with the requirements of the General Conditions and as necessary for proper financial management under this ~~Agreement~~Contract. Subject to prior written notice, provide Owner reasonable access during normal business hours to Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and the Contractor's fee. Preserve all such documents for a period of 3 years after the final payment by the Owner.

8.05 *Venue*

A. Contractor agrees that venue lies exclusively in Cumberland County, North Carolina for any legal action.

8.06 *Further Provisions*

A. Owner's Right to Do Work

1. If, during the progress of the W~~w~~ork or during the period of guarantee, the Contractor fails to prosecute the W~~w~~ork properly or to perform any provision of the contract, the Owner, after fifteen (15) days written notice sent by certified mail return receipt requested to the Contractor from the Engineer, may perform or have performed that portion of the W~~w~~ork. The cost of the W~~w~~ork may be deducted from any amounts due or to become due to the Contractor, such action and cost of same having been first approved by the Engineer. Should the cost of such action of the Owner exceed the amount due or to become due the Contractor, then the Contractor or his surety, or both, shall be liable for and shall pay to the Owner the amount of said excess.

8.07 *Force Account Work*

A. Should unforeseen circumstances arise which, in the opinion of the Engineer, require W~~w~~ork to be done which no price can be agreed upon, the Engineer may require that the W~~w~~ork be accomplished under a negotiated contract with another Contractor or with Owner's forces or on a force account basis as follows:

1. Skilled and common labor at the regular rate of pay. Pay for the Foreman may be included, provided in the judgment of the Engineer a Foreman is required.

2. To the foregoing shall be added such social security and old age benefits made by the Contractor.

3. Materials used are to be listed on invoices. Copies of vendor invoices to the Contractor which show all materials, quantities, costs, etc., shall be forwarded to the City with the prime Contractor's pay estimate.

4. Equipment used shall be paid for at an hourly rate schedule mutually agreed upon, but in no case shall it exceed the hourly rate schedule established for such units by Associated General Contractors or other published rental rate schedules which are

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acceptable to the City. To the sums of a), b), c), and d) the Contractor may add up to 7.5% for overhead and up to 7.5% for profit. When force account work has been authorized, such authority shall be in writing to the City.

8.08 *Morality Clause*

A. If, in the sole opinion of the Owner, at any time Contractor or any of its owner(s) or employee(s) or agent(s) (collectively references as an "Actor") engages in any one or more actions that bring disrepute, contempt, scandal, or public ridicule to the Actor or subject the Actor to prosecution or offend the community or public morals or decency or denigrate individuals or groups in the community served by the Owner or are scandalous or inconsistent with community standards or good citizenship or may adversely affect the Owner's finances, public standing, image, or reputation or are embarrassing or offensive to the Owner or may reflect unfavorably on the Owner or are derogatory or offensive to one or more employee(s) or customer(s) of the Owner, the Owner may immediately upon written notice to the Contractor terminate this ~~Agreement~~Contract, in addition to any other rights and remedies that the Owner may have hereunder or at law or in equity.

8.09 *Non-Appropriation*

A. Notwithstanding any other provisions of this C~~c~~ontract, the P~~p~~arties agree that payments due hereunder from the ~~City~~Owner are from appropriations and monies from the City Council and any other governmental entities. In the event sufficient appropriations or monies are not made available to ~~City~~Owner to pay the terms of this ~~agreement~~Contract for any fiscal year, this C~~c~~ontract shall terminate immediately without further obligation of ~~City~~Owner.

IN WITNESS WHEREOF, ~~Owner and Contractor~~The Parties have ~~signed~~ executed this ~~Agreement~~Contract and~~.~~

~~This Agreement~~ will be effective when fully executed by all Parties~~on **[indicate date on which Contract becomes effective]** (which is the Effective Date of the Contract)~~.

Owner:	Contractor:
_____ *(typed or printed name of organization)*	_____ *(typed or printed name of organization)*
By: _____ *(individual's signature)*	By: _____ *(individual's signature)*
Date: _____ *(date signed)*	Date: _____ *(date signed)*
Name: _____ *(typed or printed)*	Name: _____ *(typed or printed)*
Title: _____ *(typed or printed)*	Title: _____ *(typed or printed)* *(If **[Type of Entity]** is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*
Attest: _____ *(individual's signature)*	Attest: _____ *(individual's signature)*
Title: _____	Title: _____

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_____	_____
(typed or printed)	*(typed or printed)*
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
_____	_____
Designated Representative:	Designated Representative:
Name: _____	Name: _____
(typed or printed)	*(typed or printed)*
Title: _____	Title: _____
(typed or printed)	*(typed or printed)*
Address:	Address:
_____	_____
_____	_____
_____	_____
Phone: _____	Phone: _____
Email: _____	Email: _____
*(If **[Type of Entity]** is a corporation, attach evidence of authority to sign. If **[Type of Entity]** is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)*	License No.: _____ *(where applicable)*
	State: _____

EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
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PERFORMANCE BOND

Date of Contract:_____

Date of Execution:_____

Name/Address of Principal:_____
_____

Name/Address of Surety:_____
_____

Name/Address of Contracting Body:_____
_____

Amount of Bond (Printed):_____

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into a certain contract with the Contracting Body, identified as shown above and hereto attached:

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in_____counterparts.

Witness:

_____ By: _____

(Contractor: Trade or Corporate Name)

_____ Title: _____

(Proprietorship or Partnership) (Owner, Partner, or Corp. Pres. or Vice Pres. Only)

Attest: (Corporation)

By: _____

Title: _____

(Corp Sec or Ass't Sec Only) (Corporate Seal)

Witness:

_____ _____

(Surety Company)

By: _____

Title: _____

(Attorney in Fact)

Countersigned:

_____

_____

(N.C. Licensed Resident Agent) (Surety Corporate Seal)

_____

_____

_____

(Name and Address - Surety Agency)

_____

_____

_____

(Surety Company Name and NC Regional or Branch Office Address)

PAYMENT BOND

Date of Contract:_____

Date of Execution:_____

Name/Address of Principal:_____

_____

Name/Address of Surety:_____

_____

Name/Address of Contracting Body:_____

_____

Amount of Bond (Printed):_____

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into a certain contract with the Contracting Body, identified as shown above and hereto attached:

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in Counterparts

Witness:

_____ By: _____

(Contractor: Trade or Corporate Name)

_____ Title: _____

(Proprietorship or Partnership) (Owner, Partner, or Corp. Pres. or Vice Pres. Only)

Attest: (Corporation)

By: _____

Title: _____

(Corp Sec or Ass't Sec Only) (Corporate Seal)

Witness:

_____ _____

(Surety Company)

By: _____

Title: _____

(Attorney in Fact)

Countersigned:

_____ (Surety Corporate Seal)

_____

(N.C. Licensed Resident Agent)

_____

_____

_____

(Name and Address - Surety Agency)

_____

_____

_____

(Surety Company Name and NC Regional or Branch Office Address)

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

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

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

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

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

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

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

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

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

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

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

10. *Claim*

a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

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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

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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.

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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.

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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.

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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.

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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

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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.

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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

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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.

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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

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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.

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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.

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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.

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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.

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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:

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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;

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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

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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;

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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

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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.

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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

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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

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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;

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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

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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.

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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.

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

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

7.04 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

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

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;

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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.

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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.

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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.

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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**

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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.

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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.

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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;

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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.

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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

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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;

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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,

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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.

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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

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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.

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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.

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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.

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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.

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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.

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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:

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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.

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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

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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

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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

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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

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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.

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

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

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

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

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

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

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

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

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

6. Expenses incurred in preparing and advancing Claims.

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

D. *Contractor's Fee*

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

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

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

1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

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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

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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.

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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,

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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,

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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

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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.

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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;

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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

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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:

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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

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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.

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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.

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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

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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.

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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

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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.

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

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement, and supersede 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

~~No suggested Supplementary Conditions in this Article.~~

SC-1.01 Defined Terms

A. Supplement Paragraph 1.01.A by inserting the following defined terms as numbered items in their proper alphabetical positions:

1. *Bid Security*—The financial security provided by Offeror at the time the Bid is submitted and held by Owner until the Agreement is executed and the evidence of insurance and bonds required by the Contract Documents are provided.

2. *Contract Amendment*—A document issued on or after the Effective Date of the Contract and signed by Owner and Contractor which:

   a. Authorizes new phases of the Work and establishes the Contract Price, Contract Times, or terms and conditions of the Contract for the new phase of Work; or

   b. Modifies the terms and conditions of the Contract, but does not make changes in the Work.

3. *Contractor's Team*—Contractor, Subcontractors, Suppliers, and individuals or entities directly or indirectly employed or retained by Contractor, Subcontractors, or Suppliers to perform part of the Work, or anyone for whose acts they may be liable.

4. *Defective*—When applied to Work, refers to Work that is unsatisfactory, faulty, or deficient in that it:

   a. Does not conform to the Contract Documents;

   b. Does not meet the requirements of applicable inspections, reference standards, tests, or approvals referred to in the Contract Documents; or

   c. Has been damaged prior to Engineer's recommendation of final payment unless responsibility for the protection of the Work has been assumed by Owner at Substantial Completion in accordance with Paragraphs 15.03 or 15.04.

5. *Final Completion*—The point where the Work is complete in accordance with the Contract Documents, items and documents required by the Contract Documents have been accepted by the Owner and the Project is ready for Final Payment.

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6. *Indemnified Costs*—All costs, losses, judgments, and damages resulting from claims or demands against Owner's Indemnitees. These costs include fees for Engineers, attorneys, and other professionals and any legal, court, arbitration, or other dispute resolution costs.

7. *Manufacturer*—The individual or entity that designs, casts, fabricates, manufactures, assembles, tests, and provides materials or equipment to be incorporated in the Work.

8. *Modification*—Change made to the Contract Documents by Contract Amendment, Change Order, Field Order, or Work Change Directive.

9. *Offeror*—An individual or entity that submits a Bid or Proposal to Owner. When used in the Bidding Documents, Proposal Documents, or Contract Documents, the term Bidder has the same meaning as the term Offeror.

10. *Owner's Budget*—The amount budgeted by the Owner for the construction of the Project.

11. *Owner's Indemnitees*—The Owner's team, including but not limited to the Engineer and their officers, directors, members, partners, employees, agents, consultants, and subcontractors.

12. *Project Management Information System (PMIS)*—The online project management system that will be used by Owner and Contractor to submit and share documentation and other related communications and information for this Project.

SC-1.02 Terminology

A. Supplement Paragraph 1.02 by adding the following paragraphs:

"H. The terms "includes" and "including" are used as terms of enlargement and not of limitation or exclusive enumeration, and use of these terms does not create a presumption that components not expressed are excluded. The terms "consist of" or "consisting of" limits the interpretation to only those items specifically listed."

"I. It is understood that the cost of providing Work is included in the Contract Price and no additional compensation is to be paid by Owner unless specifically stated otherwise in the Contract Documents. Expressions like "at no additional cost to Owner," "at Contractor's expense," or similar words mean that the Contractor is to include the cost of this Work in their Contract Price and perform or provide specified Work without an increase in the Contract Price."

"J. Written documents are required where reference is made to notices, reports, approvals, consents, statements, instructions, opinions, or other types of documentation or communications required by the Contract Documents. Approval and consent documents must be received by Contractor prior to the action or decision for which approval or consent is given. These may be made in printed or electronic format through the Owner's Project Management Information System or other electronic media as required by the Contract Documents or approved by the Engineer."

"K. Giving notice as required by the Contract Documents may be by printed or electronic media using a method that requires acknowledgment of the receipt of that notice."

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ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

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

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

C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 *Copies of Documents*

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor **one** printed copy~~ies~~ of the Contract Documents (including one fully signed counterpart of the Agreement), and **one copy** in electronic portable document format (PDF).

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

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

2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.

1. *Basic Requirements*

a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.

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b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.

c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.

d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.

e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.

f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.

1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is **10** MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.

2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.

b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

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c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.

d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.

e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.

f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.

g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.

~~h. The Owner will operate a Project information management system (also referred to in this EDP as "Project Website") for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project related information. The following conditions and standards will govern use of the Project Website:~~

~~1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;~~

~~2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;~~

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~~3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and~~

~~4) Include any other Project Website attributes that may be pertinent to Contractor's use of the facility and pricing of such use.~~

~~C. *Software Requirements for Electronic Document Exchange; Limitations*~~

~~1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.~~

~~a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.~~

~~2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.~~

~~3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.~~

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. *Requests by Contractor for Electronic Documents in Other Formats*

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.

2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:

a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of

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accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.

c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.

d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.

~~3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at $**[number]** per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.~~

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

~~SC-3.01 Delete Paragraph 3.01.C in its entirety.~~

A. Delete Paragraph 3.01.A in its entirety and insert the following in its place:

"A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all. The Drawings and Specifications do not indicate or describe all of the Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Engineer. Provide any work, materials, or equipment required for a complete and functional system even if they are not detailed or specified.

1. The Contract requirements described in the General Conditions, Supplementary Conditions, and General Requirements apply to each and all Sections of the Specifications unless specifically noted otherwise.

2. Organization of Contract Documents is not intended to control or to lessen the responsibility of the Contractor when dividing Work among Subcontractors, or to establish the extent of Work to be performed by any trade, Subcontractor, or

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Supplier. Specifications or details do not need to be indicated or specified in each specification or drawing. Items shown in the Contract Documents are applicable regardless of location in the Contract Documents.

3. Standard paragraph titles and other identifications of subject matter in the Specifications are intended to aid in locating and recognizing various requirements of the Specifications. Titles do not define, limit, or otherwise restrict specification text."

B. Supplement Paragraph 3.01.D by adding the following sentence:

"The Contract Documents comprise the entire Agreement between Owner and Contractor and may be modified only by Field Order, Change Order, Contract Amendment, or Work Change Directive."

C. Supplement Paragraph 3.01.E by adding the following sentence:

"Engineer, in conjunction with the Owner's Attorney Office, will issue clarification and interpretations of the Contract Documents as provided herein."

D. Supplement Paragraphs 3.01 by adding the following paragraphs:

"H. Where compliance with two or more standards is specified and they establish different or conflicting requirements for minimum quantities or quality levels, Contractor shall comply with the most stringent requirements unless the Contract Documents indicate otherwise.

1. Quantity or quality level shown or indicated shall be the minimum to be provided or performed in every instance.

2. Actual installation shall comply exactly with minimum quality indicated or may exceed that minimum within reasonable limits.

3. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for context of requirements.

4. Refer instances of uncertainty to the Engineer for a decision before proceeding."

"I. Provide materials and equipment comparable in quality to similar materials and equipment incorporated in the Project or as required to meet the minimum requirements of the application if the materials and equipment are shown in the Drawings but are not included in the Specifications."

SC-3.02 Reference Standards

A. Supplement Paragraph 3.02.A by adding the following subparagraph:

"3. Comply with applicable construction industry standards as if bound or copied directly into the Contract Documents regardless of lack of reference in the Contract Documents. Apply provisions of the Contract Documents where Contract Documents include more stringent requirements than the referenced standards.

a. Standards referenced directly in the Contract Documents take precedence over standards that are not referenced but recognized in the construction industry as applicable.

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b. Comply with standards not referenced but recognized in the construction industry as applicable for performance of the Work except as otherwise limited by the Contract Documents. Engineer will determine whether codes or standards are applicable to the performance of the Work.

c. Make copies of reference standards available as requested by Engineer or Owner."

SC-3.03 Reporting and Resolving Discrepancies

A. Delete Paragraph 3.03.A.3 in its entirety and insert the following in its place:

"3. In the event of a conflict in the Drawings, Specifications, or other portions of the Contract Documents which were not reported prior to the bidding of the Contract, the Contractor shall be deemed to have included the most expensive item, system, procedure, etc. in its Bid or Proposal."

SC-3.05 Reuse of Documents

A. Delete the last sentence of Paragraph 3.05.B and insert the following in its place:

"Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes, unless specifically prohibited in writing by the Owner for security reasons. If the Owner so directs, Contractor shall surrender all copies of the construction Contract Documents and other related documents, in paper or digital format and remove these documents from computer equipment or storage devices as a condition of final payment."

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

~~*4.05 Delays in Contractor's Progress*~~

SC-4.04 Progress Schedule

A. Supplement Paragraph 4.04 by adding the following paragraph:

"C. Contractor assumes and bears responsibility for all costs and time delays associated with any variation from the requirements of the Contract Documents."

SC-4.05 Delays in Contractor's Progress

A. Delete Paragraph 4.05.C.2 in its entirety and insert the following in its place:

" 2. Abnormal Weather Conditions

a. If Contractor's progress is delayed by "abnormal weather conditions," as defined below, then the Contractor shall be entitled to an adjustment in Contract Time. Such an adjustment shall be the sole and exclusive remedy for the Contractor due to weather and its impacts. The Contractor shall understand that there is a potential for unusually severe weather or high stream levels which may impact construction.

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b. The Contractor's entitlement to an adjustment of the Contract Time is conditioned on the delay adversely affecting an activity on the critical path to completion at the time of the delay.

c. No time extensions will be allowed for foreseeable inclement weather conditions. Contractor shall include the number of foreseeable inclement weather days shown in the table below in their project schedule.

d. If "abnormal weather 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:

a. that weather conditions were abnormal for the period of time in which the delay occurred,

b. that such weather conditions could not have been reasonably anticipated,

c. that such weather conditions had an adverse effect on a scheduled activity on Contractor's then-current Progress Schedule's critical path for the Project,

d. that such weather or stream levels actually caused a delay to the completion of those scheduled activities, and

e. that the delay was beyond the control and without the fault or negligence of the Contractor.

3. The existence of abnormal weather conditions, beyond inclement weather conditions, will be determined on a month-by-month basis in accordance with the following:

a. Every workday on which one or more of the following conditions exist will be considered an "inclement weather day":

i. Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds **0.25"** of precipitation (as rain equivalent, based on the snow/rain conversion using the following conversion factors for rain equivalent):

1. Two inches of sleet equal 1 inch of rain;

2. Five inches of wet, heavy snow equal 1 inch of rain; and

3. Fifteen inches of "dry" powder snow equals 1 inch of rain.

b. Determination of actual inclement weather days during performance of the Work will be based on the weather records measured and recorded by **National Oceanic & Atmospheric Administration** weather monitoring station ~~FAYETTEVILLE~~ayetteville PWC, NC US (GHCND:USC00313017).

c. Website for Monitoring Station: [https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USC00313017/detail]

d. Contractor shall anticipate the number of foreseeable inclement weather days per month indicated in the following table:

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Month	Number of Days
January	8
February	8
March	8
April	8
May	8
June	5
July	9
August	9
September	5
October	5
November	8
December	9
Total	90

4. In each month, every inclement weather day exceeding the number of foreseeable inclement weather days as established in the table above will be considered as "abnormal weather conditions." The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

5. The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather 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.

6. Tropical Storms and Hurricanes

    a. When NOAA, or its affiliates such as the National Hurricane Center, issue a Tropical Storm Watch, Tropical Storm Warning, Hurricane Watch, or Hurricane Warning for the project location, then the following may be considered:

        i. Preparation: up to and including two calendar days will be considered for preparing the project site to mitigate Tropical Storm or Hurricane impacts to the site and work.

        ii. Event: the provisions in this section regarding "abnormal weather conditions" are applicable during the Tropical Storm or Hurricane.

        iii. After-Event: Contractor will be under the obligation to demonstrate and document the delays directly caused by the Tropical Storm or Hurricane that

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are specific to the planned work activities on Contractor's then-current Progress Schedule's critical path for the Project.

b. At the conclusion of the storm event and subsequent clean-up, but within 60 calendar days of the Tropical Storm or Hurricane, the Contractor shall present their request for Contract Time adjustment (preparation, event, after-event) to the Owner and Engineer for consideration. "

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

SC-5.01 Availability of Lands

A. Supplement Paragraph 5.01.C by adding the following sentence:

"A copy of the written agreements for the use of such land shall be provided to the Owner for record purposes."

SC-5.02 Use of Site and Other Areas

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 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'S INDEMNITEES 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**."

5.03 *Subsurface and Physical Conditions*

A. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.03 of the General Conditions related to subsurface and physical conditions.

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1. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Report Date	Technical Data

2. 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 upon which Contractor may rely:

Drawing Title	Drawing Date	Technical Data

3. Copies of reports and drawings may be downloaded from the project procurement website.

SC-5.04 Differing Subsurface or Physical Conditions

A. Amend Paragraph 5.04.A by deleting the word "promptly" and inserting "promptly, but no later than within 3 days," in its place.

SC-5.05 Underground Facilities

A. Amend Paragraph 5.05.B by deleting the word "promptly" and inserting "promptly, but no later than within 3 days," in its place.

5.06 *Hazardous Environmental Conditions*

B. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.06 of the General Conditions related to Hazardous Environmental Conditions at the Site.

1. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Report Date	Technical Data

2. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawing Title	Drawing Date	Technical Data

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Drawing Title	Drawing Date	Technical Data

3. Copies of reports and drawings may be downloaded from the project procurement website.

C. Delete Paragraph 5.06.I in its entirety.

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

"J. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES 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."

SC-5.07 Sedimentation Pollution Control Act of 1973

A. Add a new Paragraph 5.07 as follows:

"5.07 *Sedimentation Pollution Control Act of 1973*

A. Any land-disturbing activity performed by the Contractor or any principal trade or specialty contractor in connection with the Project shall comply with all erosion control measures set forth in the Contract Documents and any additional measures which may be required in order to ensure that the Project is in full compliance with the North Carolina Sedimentation Pollution Control Act of 1973, as implemented by N.C. Gen. Stat Chapter 113A, Article 4 and Title 15A, N.C. Admin. Code, Chapter 4.

B. Upon receipt of notice that a land-disturbing activity is in violation of said act, the Contractor shall be responsible for ensuring that all steps or actions necessary to bring the Project in compliance with said act are promptly taken.

C. The Contractor will be responsible for defending any legal actions instituted pursuant to NCGS §113A-64.

D. **TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF WORK OR FAILURE OF PERFORMANCE OF WORK, PROVIDED THAT ANY SUCH CLAIM OR INDEMNIFIED COST IS ATTRIBUTABLE TO A VIOLATION OF THE SEDIMENTATION POLLUTION CONTROL ACT. SUCH OBLIGATION SHALL NOT BE CONSTRUED TO NEGATE, ABRIDGE, OR OTHERWISE REDUCED ANY OTHER RIGHT**

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OR OBLIGATION OF INDEMNITY WHICH WOULD OTHERWISE EXIST AS TO ANY PARTY OR PERSONS DESCRIBED IN THIS PARAGRAPH."

~~SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:~~

~~4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely: **[If there are no such reports, so indicate in the table]**~~

~~**Report Title**~~	~~**Date of Report**~~	~~**Technical Data**~~
		~~**[Identify Technical Data]**~~

~~5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely: **[If there are no such drawings, so indicate in the table]**~~

~~**Drawings Title**~~	~~**Date of Drawings**~~	~~**Technical Data**~~
		~~**[Identify Technical Data]**~~

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

~~SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:~~

~~1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).~~

~~2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).~~

SC-6.01 Performance, Payment, and Other Bonds

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

"6.01. Performance, Payment, and other Bonds

A. Contractor shall furnish a performance bond and a payment bond equal to 100% of the contract price and in accordance and conformity with the requirements of Chapter 44A of the North Carolina General Statutes. Contractor shall also furnish such other bonds, if any, as may be required by the Supplementary Conditions or other provisions of this contract."

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B. Supplement Paragraph 6.01 by adding the following paragraphs:

"B. Contractor shall provide a maintenance bond as specified in Section 00 61 20 "Maintenance Bond Requirements." This bond is to become effective the date of the expiration of the one year correction period specified in Paragraph 15.08 for all or any part of the Project so designated in accordance with Paragraph 15.03, and shall remain in effect for the duration specified in Section 00 61 20 "Maintenance Bond Requirements" after the expiration of the one-year correction period, except as provided otherwise by Laws or Regulations."

~~SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:~~

~~1. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be **[number—either 2, 3, or other]** years after Substantial Completion.~~

~~2. After Substantial Completion, Contractor shall furnish a warranty bond issued in the form of EJCDC® C-612, Warranty Bond (2018). The warranty bond must be in a bond amount of **[number—either 10, 15, or other]** percent of the final Contract Price. The warranty bond period will extend to a date **[number—either 2, 3, or other]** years after Substantial Completion of the Work. Contractor shall deliver the fully executed warranty bond to Owner prior to or with the final application for payment, and in any event no later than 11 months after Substantial Completion.~~

~~3. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.~~

6.02 *Insurance—General Provisions*

~~SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:~~

~~1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.~~

SC-6.02 Insurance—General Provisions

A. Delete Paragraph 6.02.A in its entirety and insert the following in its place:

"A. Obtain and maintain insurance in accordance with Section 00 73 16 'Insurance Requirements.'"

~~SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:~~

~~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.~~

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

SC-6.04 Delete Paragraph 6.04.A of the General Conditions and substitute the following in its place:

A. *Installation Floater*

1. Contractor shall provide and maintain installation floater insurance on a broad form or "all risk" policy providing coverage for materials, supplies, machinery, fixtures, and equipment that will be incorporated into the Work ("Covered Property"). Coverage under the Contractor's installation floater will include loss from covered "all risk" causes (perils) to Covered Property:

   a. of the Contractor, and Covered Property of others that is in Contractor's care, custody, and control;

   b. while in transit to the Site, including while at temporary storage sites;

   c. while at the Site awaiting and during installation, erection, and testing;

   d. continuing at least until the installation or erection of the Covered Property is completed, and the Work into which it is incorporated is accepted by Owner.

2. The installation floater coverage cannot be contingent on an external cause or risk, or limited to property for which the Contractor is legally liable.

3. The installation floater coverage will be in an amount sufficient to protect Contractor's interest in the Covered Property. The Contractor will be solely responsible for any deductible carried under this coverage.

4. This policy will include a waiver of subrogation applicable to Owner, Contractor, Engineer, all Subcontractors, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them.

SC-6.05 Property Losses; Subrogation

A. Delete the words "Owner and Contractor waive" in the first sentence of Paragraph 6.05.A.1 and replace it with the words "Contractor waives".

B. Delete Paragraph 6.05.B.1 in its entirety.

SC-6.06 Receipt and Application of Property Insurance Proceeds

A. Delete Paragraph 6.06 in its entirety.

SC-6.07 Owner's Insurance for Project

Add a new Paragraph 6.08 as follows:

"6.07 Owner's Insurance for Project

A. Owner shall not be responsible for purchasing and maintaining any insurance to protect the interest of the Contractor, Subcontractors, or others in the Work. The stated limits of insurance required are minimum only. Contractor shall determine the limits that are adequate. These limits may be basic policy limits or any combination of

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~~basic limits and umbrella limits. In any event, Contractor is fully responsible for all losses arising out of, resulting from or connected with operations under this Contract whether or not said losses are covered by insurance. The acceptance of certificates or other evidence of insurance by the Owner Engineer, and/or others listed as an additional insured, that in any respect do not comply with the Contract requirements does not release the Contractor from compliance herewith."~~

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 *Labor; Working Hours*

A. Delete Paragraph 7.03.C in its entirety and insert the following in its place:

"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, no Work shall be performed at the Site between 6:00 p.m. and 7:00 a.m. Contractor will not permit the performance of Work on a Saturday, Sunday, or any Owner holiday without Owner's written consent. Should Contractor desire to work on these days, Contractor shall contact the Owner, in writing, for approval at least 48 hours in advance. Emergency work may be done without prior permission. Tie ins and connections to existing facilities will be made at time authorized by the Owner. Owner's legal holidays are those recognized by the City of Fayetteville**."**

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

~~1. Regular working hours will be **[Here insert schedule of regular working hours]**.~~

~~2. Owner's legal holidays are **[Here insert list of legal holidays]**.~~

~~SC-7.03 Amend the first and second sentences of Paragraph 7.03.C to state "…all Work at the Site must be performed during regular working hours, **[day of the week]** through **[day of the week]**. Contractor will not perform Work on a **[day of the week]**, **[day of the week]**, or any legal holiday."~~

~~SC-7.03 Delete Paragraph 7.03.C in its entirety, and insert the following:~~

~~C. In the absence of any Laws or Regulations to the contrary, Contractor may perform the Work on holidays, during any or all hours of the day, and on any or all days of the week, at Contractor's sole discretion.~~

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

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

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~~SC-7.03 Add the following new subparagraph immediately after Paragraph SC-7.03.D:~~

~~1. For purposes of administering the foregoing requirement, additional overtime costs are defined as **[Here insert parameters for compensated overtime hours]**.~~

7.10 *Taxes*

A. Add a new paragraph immediately after Paragraph 7.10.A:

"A. Owner qualifies as an exempt agency as defined by the statutes of the State of **North Carolina.** 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."

1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.

2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

~~SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:~~

~~A. Owner is exempt from payment of sales and compensating use taxes of the State of **[name of state where Project is located]** and of cities and counties thereof on all materials to be incorporated into the Work.~~

~~1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.~~

~~2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.~~

SC-7.11 Laws and Regulations

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

"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'S INDEMNITEES 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."

~~*7.13 Safety and Protection*~~

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~~Insert the following after the second sentence of Paragraph 7.13.G:~~

~~"The following Owner safety programs are applicable to the Work: **[specify by title and/or date, any such Owner safety programs. If Owner's safety programs are included in or addressed in the Specifications, SC-7.13 may be used to provide a cross-reference to the Specification Section]**."~~

~~SC-7.13 Insert the following after the second sentence of Paragraph 7.13.G:~~

~~The following Owner safety programs are applicable to the Work: **[Here expressly identify by title and/or date, any such Owner safety programs. If Owner's safety programs are included in or addressed in the Specifications, SC-7.13 may be used to provide a cross-reference to the Specification section]**.~~

SC-7.15 Emergencies

A. Amend Paragraph 7.15.A by deleting the last sentence and inserting the following in its place:

"Contractor may submit a Change Proposal if the incident giving rise to the emergency action was not the responsibility of the Contractor and a change in the Contract Documents is required because of the emergency or the action taken by Contractor in response to such an emergency."

SC-7.16 Submittals

A. Delete Paragraph 7.16.A.3 in its entirety and insert the following in its place:

"3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents on a Shop Drawing Deviation Request form provided by the Engineer and request that a Field Order or Change Order be issued for each of the specific variations submitted for approval. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation."

B. Delete Paragraph 7.16.C.4 in its entirety and insert the following in its place:

"4. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A and Engineer has given written approval of each such variation by issuing a Field Order or Change Order. If the proposed Modification is approved by the Engineer, the submittal will be considered to be in strict compliance with the Contract Documents and it will be reviewed in accordance with the Contract Documents. If the proposed Modification is not approved, the submittal will be returned to the Contractor with appropriate comments. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A."

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C. Delete Paragraph 7.16.D.1 in its entirety and insert the following in its place:

"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. Resubmittals shall reference and respond directly to Engineer's previous comments. Any variations from strict compliance with the Contract Documents will be identified in the same manner as required in Paragraph 7.16.A and will require the same approvals."

SC-7.18 Indemnification

A. Delete Paragraph 7.18.A in its entirety and insert the following in its place:

"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'S INDEMNITEES FROM LOSSES, DAMAGES, COSTS, AND JUDGMENTS (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF DESIGN PROFESSIONALS, 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."

ARTICLE 8—OTHER WORK AT THE SITE

~~*SC-8.02 Coordination*~~

~~Supplement Paragraph 8.02 by adding the following paragraph:~~

~~"C. Work to be performed by others is listed in Section 01 11 00 "Summary of Work."~~

~~*8.02 Coordination*~~

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

~~C. Owner intends to contract with others for the performance of other work at or adjacent to the Site.~~

~~1. **[Here identify individual or entirety]** shall have authority and responsibility for coordination of the various contractors and work forces at the Site;~~

~~2. The following specific matters are to be covered by such authority and responsibility: **[Here itemize such matters]**;~~

~~3. The extent of such authority and responsibilities is: **[Here provide the extent]**.~~

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SC-8.03 Legal Relationships

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

"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'S INDEMNITEES 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**."

SC-8.04 Claims Between Contractors

Supplement Article 8 by adding the following paragraph:

"8.04 *Claims between Contractors*

A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, or Engineer, then Contractor (without involving Owner or Engineer) shall either (1) remedy the damage, (2) agree to compensate the other contractor for remedy of the damage, or (3) remedy the damage and attempt to settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law.

B. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING DIRECTLY, INDIRECTLY OR CONSEQUENTIALLY OUT OF ANY ACTION, LEGAL OR EQUITABLE, BROUGHT BY ANY OTHER CONTRACTOR AGAINST THE OWNER, AND ENGINEER TO THE EXTENT SAID CLAIM IS BASED ON OR ARISES OUT OF CONTRACTOR'S PERFORMANCE OF THE WORK. SHOULD ANOTHER CONTRACTOR CAUSE DAMAGE TO THE WORK OR PROPERTY OF CONTRACTOR OR SHOULD THE PERFORMANCE OF WORK BY ANY OTHER CONTRACTOR AT THE SITE GIVE RISE TO ANY OTHER CLAIM, CONTRACTOR SHALL NOT INSTITUTE ANY ACTION, LEGAL OR EQUITABLE, AGAINST OWNER'S INDEMNITEES OR PERMIT ANY ACTION AGAINST ANY OF THEM TO BE MAINTAINED AND CONTINUED IN ITS NAME OR FOR ITS BENEFIT IN ANY COURT OR BEFORE ANY ARBITER WHICH SEEKS TO IMPOSE LIABILITY ON OR TO RECOVER DAMAGES FROM THE OWNER AND ENGINEER ON ACCOUNT OF ANY SUCH DAMAGE OR CLAIM.**

C. Contractor may submit a Change Proposal for an extension of Contract Times, in accordance with Article 11, if Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor. An extension of the

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~~Contract Times will be Contractor's exclusive remedy with respect to the Owner and Engineer for any delay, disruption, interference, or hindrance caused by any other contractor."~~

ARTICLE 9—OWNER'S RESPONSIBILITIES

~~9.13 *Owner's Site Representative*~~

~~SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:~~

~~9.13 *Owner's Site Representative*~~

~~A. Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be~~ City Construction Manager ~~The authority and responsibilities of Owner's Site Representative follow:~~

~~*Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.~~

~~2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.~~

~~3. *Liaison*~~

~~a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.~~

~~b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.~~

~~c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.~~

~~4. *Review of Work; Defective Work*~~

~~a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.~~

~~b. Observe whether any Work in place appears to be defective.~~

~~c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.~~

~~5. *Inspections and Tests*~~

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~~a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.~~

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

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

~~7. *Completion*~~

~~a. Participate in Engineer's visits regarding Substantial Completion.~~

~~b. Assist in the preparation of a punch list of items to be completed or corrected.~~

~~c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.~~

~~d. Observe whether items on the final punch list have been completed or corrected.~~

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

~~SC-10.03 Add the following new subparagraph immediately after Paragraph 10.03.A:~~

~~1. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.~~

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

C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:

1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

3. *Liaison*

a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

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c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.

4. *Review of Work; Defective Work*

a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.

b. Observe whether any Work in place appears to be defective.

c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.

5. *Inspections and Tests*

a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.

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

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

7. *Completion*

a. Participate in Engineer's visits regarding Substantial Completion.

b. Assist in the preparation of a punch list of items to be completed or corrected.

c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.

d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.

5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Authorize Owner to occupy the Project in whole or in part.

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ARTICLE 11—CHANGES TO THE CONTRACT

~~No suggested Supplementary Conditions in this Article.~~

11.01 *SC-11.02 Change Orders*

A. Supplement Paragraph 11.02 by adding the following paragraph:

"C. Contractor assumes and bears responsibility for all costs and time delays associated with any variation from the requirements of the Contract Documents unless the variation is specifically approved by Change Order."

11.02 *SC-11.11 No Damage for Delays*

A. Supplement Article 11 by adding the following paragraph:

"11.11 *No Damage for Delays*

A. Contractor agrees to make no Claims for damage for delay in the performance of the Contract occasioned by any act or omission to act of the Owner, Engineer, or any of the Engineer's or Owner's agents, and agrees that any such Claim shall be fully compensated by an extension of time, as set forth in a Change Order, to complete performance of the Work as provided herein."

ARTICLE 12—CLAIMS

~~No suggested Supplementary Conditions in this Article.~~

12.01 *SC-12.01 Claims*

A. Delete Paragraph 12.01 in its entirety and insert the following in its place:

"A. *Initial Decision.* All claims by either the Owner or the Contractor must be initiated by written notice to the other party and the Engineer or initial decision maker within 21 days of the occurrence of the event giving rise to such claim or within 21 days after the claimant first recognizes the condition giving rise to the claim. All claims shall be referred to the Engineer or other designated decision maker for initial decision. The Engineer or initial decision maker shall review the submitted claim. During the review, the Engineer or initial decision maker may request additional information from the parties in support or opposition to the claim under review. Within 30 days of the receipt of the claim, the Engineer or initial decision maker shall render an initial, written decision approving or rejecting the claim, in whole or in part.

B. *Mediation.* Either party may, within 30 days of the date of the initial decision, demand mediation of the initial decision. After demand for mediation has been made, either party may initiate mediation, but in no event later than 60 days from the date of the initial decision. Mediation shall be in accordance with the statutes and procedures governing mediation in the Superior Court of Cumberland County, North Carolina. The exclusive venue of mediation shall be Cumberland County, North Carolina. Mediation of a claim shall be a condition precedent to any binding dispute resolution. Failure to demand or initiate mediation of an initial decision within the foregoing t~~i~~ime limits shall convert the initial

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decision to a final decision and waive all parties' rights to mediation or any binding dispute resolution process.

C. *Binding Dispute Resolution.* If, after mediation, the claim remains unresolved, claimant shall submit the disputed claim to binding dispute resolution by ~~the~~ filing a complaint, within the time limits specified by statute, in the Superior Court of Cumberland County, North Carolina. Said action in Superior Court shall be decided by a Judge without a jury; the parties hereto having knowingly waived their right to a jury."

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

No suggested Supplementary Conditions in this Article.

~~SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:~~

~~The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of **[name of equipment rental rate book]**.~~

~~SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:~~

~~*a. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than $500. **[or insert other threshold price.]***~~SC-13.01~~

~~*SC-13.01 Cost of the Work*~~

~~Amend Paragraph 13.01.B by deleting the following words in the first sentence:~~

~~"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:"~~

~~and insert the following in its place:~~

~~"those paid for the Work included in the Contract Price, and shall not include any of the costs itemized in Paragraph 13.01.C. Contractor shall provide certified payroll records listing personnel classifications and salaries for all individuals involved in additional Work. Salaries for those not included in the certified payroll will be considered as being compensated under Paragraph 13.01.C, and shall include only the following items:"~~

~~Amend Paragraph 13.01.B.1 by deleting the following words in the second sentence:~~

~~", without limitation, superintendents, foremen"~~

~~and inserting the following in its place:~~

~~"one foreman (unless agreed upon prior to beginning Work)"~~

~~Amend Paragraph 13.01.B.1 by deleting the following words in the last sentence:~~

~~"be included in the above"~~

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and inserting the following in its place:

"not exceed 1.5 times regular pay and shall be included in the above"

Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

"The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current revision of https://equipmentwatch.com/blue-book-cost-recovery/."

Amend Paragraph 13.01.C.1 by adding "superintendents" to the list of excluded personnel in the first sentence.

Supplement Paragraph 13.01.C.2 by adding the following sentence:

"a. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than $**[500]**."

13.03 *Unit Price Work*

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

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 extended price of a particular item of Unit Price Work amounts to **[number]** 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 **[number]** percent 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.*SC-13.03 *Unit Price Work*

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

"E. *Adjustments in Unit Price*

1. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

a. If the total cost of a particular item of Unit Price Work amounts to 20 percent or more of the total Contract Price or the variation in the quantity of that particular item of Unit Price Work performed by the Contractor

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~~differs by more than 20 percent from the estimated quantity of such item indicated in the Agreement; and~~

~~b. If there is no corresponding adjustment with respect to any other item of Work; and~~

~~c. If Contractor believes that Contractor has incurred additional expense as a result thereof; or if Owner believes that the quantity variation entitles Owner to an adjustment in the Unit Price, either the Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 11 if the parties are unable to agree as to the effect of any such variation in the quantity of the Unit Price Work performed."~~

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

No suggested Supplementary Conditions in this Article.

ARTICLE 15 - PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 *Progress Payments*

~~SC-15.01 Add the following new Paragraph 15.01.F:~~

~~F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment.~~

SC-15.01 Progress Payments

A. Delete Paragraph 15.01.B.1 in its entirety and insert the following in its place:

"1. On the first working day following the 25th of each 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."

B. Amend Paragraph 15.01.C.1 by deleting "10" and inserting "30" in its place.

C. Amend Paragraph 15.01.E.1 by deleting Subparagraph 15.01.E.1.l and adding the following in its place:

"l. Owner has been notified of failure to make payments to Subcontractors or Suppliers or for labor;"

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"m. failure to submit up to date record documents as required by the Contract Documents;"

"n. failure to submit monthly Progress Schedule updates or revised schedules as requested by the Owner or Engineer;"

"o. failure to provide Project videos or photographs required by the Specifications;"

"p. Other items entitle Owner to a set off against the amount recommended."

D. Amend Paragraph 15.01.E.3 by deleting "and subject to interest as provided in the Agreement."

E. Supplement Paragraph 15.01.E by adding the following subparagraph:

"4. Owner may permanently withhold payment from Contract Price for:

a. Liquidated damages incurred by Contractor.

c. Costs for tests performed by the Owner to verify that Work previously tested and found to be defective has been corrected. Verification testing is to be provided at the Contractor's expense to verify products or constructed works are in compliance after corrections have been made."

F. Supplement Paragraph 15.01 by adding the following paragraph:

"F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment."

15.03 *Substantial Completion*

A. Supplement Paragraph 15.03.B by adding the following subparagraph:

"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."

~~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~~

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~~agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.~~

SC-15.06 Final Payment

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

"E. *Final Payment Becomes Due*: The first working day following the 10th day of the second month following the submittal of the final Application for Payment and accompanying documentation, the amount recommended by the Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set offs for liquidated damages and set offs allowed under the provisions above with respect to progress payments) will become due and will be paid by Owner to Contractor."

15.08 *Correction Period*

~~SC-15.08 Add the following new Paragraph 15.08.G:~~

A. ~~G. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be the number of years set forth in SC-6.01.B.1; or if no such revision has been made in SC-6.01.B, then the correction period is hereby specified to be **[number]** years after Substantial Completion.~~Supplement Paragraph 15.08 by adding the following paragraph:

"G. When early acceptance of a Substantially Completed portion of the Work is accomplished in the manner indicated in the Contract Documents, the correction period for that portion of the Work shall commence at the time of Substantial Completion of that Work."

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

~~No suggested Supplementary Conditions in this Article.~~

16.01 *SC-16.02 Owner May Terminate for Cause*

A. Delete Subparagraphs 16.02.A.3 and 16.02.A.4 in their entirety and replace them with the following:

"3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;"

"4. Contractor's repeated disregard of the authority of Owner or Engineer;"

"5. Contractor fails to provide a replacement bond or insurance coverage as required by the General Conditions and as amended by the Supplementary Conditions; or"

"6. If any petition of bankruptcy is filed by or against Contractor, or if Contractor is adjudged as bankrupt or insolvent or makes a general assignment for the benefit of creditors, or if a receiver is appointed for the benefit of Contractor's creditors, or if a receiver is appointed on account of Contractor's insolvency, upon the occurrence of any such event, Owner shall be entitled to request of Contractor or its successor in interest adequate assurance of future performance in accordance with the terms and conditions hereof. Failure to comply with such request within 7 days of delivery of the

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request shall entitle Owner to terminate this Agreement and to the accompanying rights set forth in Article 16 of the General Conditions. In all events pending receipt of adequate assurance of performance and actual performance in accordance therewith, Owner shall be entitled to proceed with the Work with its own forces or with other contractors on a time and material or other appropriate basis. The cost of work by Owner or other contractors will be back charged against the Contract Sum hereof."

B. Delete Paragraph 16.02.G in its entirety.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.01 *SC-17.01 Methods and Procedures*

A. Delete Paragraph 17.01 in its entirety and insert the following in its place:

"17.01 *Methods and Procedures*

A. The Owner and Contractor may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Law."

B. The following method of dispute resolution is identified as required by Paragraph 17.01.B of the General Conditions:

1. In accordance with NCGS §143-128(f1), 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. Owner has adopted the North Carolina State Building Commission's dispute resolution process. The process entitled "Rules Implementing Mediated Settlement Conferences in North Carolina Construction Projects" is attached to this Section.

2. For any claim, dispute, or other matter in question involving less than $15,000, the Owner and Contractor may agree to submit the matter to the dispute resolution process or exercise such rights or remedies as either may otherwise have under the Contract Documents or by Law.

~~17.02 *Arbitration*~~

~~SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.~~

~~17.02 *Arbitration*~~

~~A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of $100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.~~

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B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.

C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.

D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.

E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.

F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.

G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:

1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;

3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and

4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.

H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.

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I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 *Attorneys' Fees*

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02. [Note: If there is no Paragraph 17.02, because neither arbitration nor any other dispute resolution process has been specified here in the Supplementary Conditions, then revise this to state "Add the following new Paragraph immediately after Paragraph 17.01" and revise the numbering accordingly].

17.03 *Attorneys' Fees*

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

ARTICLE 18—MISCELLANEOUS

18.01 *SC-18.02 Computation of Times*

A. Supplement Paragraph 18.02 by adding the following paragraph:

"B. All references and conditions for a "Calendar Day Contract" in the General Conditions and Supplementary Conditions shall apply for a "Fixed Date Contract." A "Fixed Date Contract" is one in which the calendar dates for reaching Substantial Completion and/or final completion are specified in lieu of identifying the actual calendar days involved."

INCLUDE SC-18.08 FOR PROJECTS WHERE CONTRACTS FOR GOODS AND/OR SPECIAL SERVICES WILL BE ASSIGNED TO THE CONTRACTOR BY THE OWNER (PRE-SELECTION AND ASSIGNMENT OF OWNER-FURNISHED EQUIPMENT).

18.08 *Assignment of Contract*

Supplement Paragraph 18.08 by adding the following paragraph:

"B. The contract dated **[specify]** between Owner as "buyer" and **[specify seller]** as "seller" for procurement of goods and special services ("procurement contract") **[is hereby] [will be]** assigned to Contractor by Owner, and Contractor **[accepts] [will accept]** such assignment. A form documenting the assignment is attached as an exhibit to this Contract.

1. This assignment will occur on the **[Effective Date of the Contract]**, and will relieve the Owner as "buyer" from all further obligations and liabilities under the procurement contract.

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2. Upon assignment, the "seller" will be a Subcontractor or Supplier of the Contractor, and Contractor will be responsible for seller's performance, acts, and omissions, as set forth in Paragraph 7.07 of the General Conditions just as Contractor is responsible for all other Subcontractors and Suppliers.

3. Notwithstanding this assignment, all performance guarantees and warranties required by the procurement contract will continue to run for the benefit of the Owner and, in addition, for the benefit of the Contractor.

4. Except as noted in the procurement contract, all rights, duties and obligations of Engineer to "buyer" and "seller" under the procurement contract will cease **[upon the assignment to Contractor]**."

SC-18.08 Add the following new paragraph immediately after Paragraph 18.08.A:

B. The contract dated **[date]** between Owner as "buyer" and **[identify seller]** as "seller" for procurement of goods and special services ("procurement contract") **[is hereby] [will be]** assigned to Contractor by Owner, and Contractor **[accepts] [will accept]** such assignment. A form documenting the assignment is attached as an exhibit to this Contract.

1. This assignment will occur on the **[Effective Date of the Contract]**, and will relieve the Owner as "buyer" from all further obligations and liabilities under the procurement contract.

2. Upon assignment, the "seller" will be a Subcontractor or Supplier of the Contractor, and Contractor will be responsible for seller's performance, acts, and omissions, as set forth in Paragraph 7.07 of the General Conditions just as Contractor is responsible for all other Subcontractors and Suppliers.

3. Notwithstanding this assignment, all performance guarantees and warranties required by the procurement contract will continue to run for the benefit of the Owner and, in addition, for the benefit of the Contractor.

4. Except as noted in the procurement contract, all rights, duties and obligations of Engineer to "buyer" and "seller" under the procurement contract will cease **[upon the assignment to Contractor]**.

SC-18.09 Independent Contractor

A. Supplement Article 18 by adding the following paragraph:

"18.11 *Independent Contractor*

A. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership, or formal business organization of any kind."

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SC-18.10 Headings

A. Delete Paragraph 18.08.A in its entirety and insert the following in its place:

"A. The Article and paragraph headings in this Agreement are inserted for convenience only and do not constitute parts of these General Conditions or act as a limitation of the scope of the particular section to which they refer. This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either party."

~~*SC-18.09 Independent Contractor*~~

~~A. Supplement Article 18 by adding the following paragraph:~~

~~"18.11 *Independent Contractor*~~

~~A. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership, or formal business organization of any kind."~~

SC-18.12 Severability

A. Supplement Article 18 by adding the following paragraph:

"18.12 *Severability*

A. If a court of competent jurisdiction renders any part of this Agreement invalid or unenforceable, that part will be severed and the remainder of this Agreement will continue in full force and effect."

SC-18.13 No ~~Third Party~~Third-Party Beneficiaries

A. Supplement Article 18 by adding the following paragraph:

"18.13 *No ~~Third Party~~Third-Party Beneficiaries*

A. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the parties do not intend to create any ~~third party~~third-party beneficiaries by entering into this Agreement."

SC-18.14 Sovereign Immunity

A. Supplement Article 18 by adding the following paragraph:

"18.14 *Sovereign Immunity*

A. The parties agree that the Owner has not waived its sovereign immunity by entering into and performing its obligations under this Agreement."

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Exhibit A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contactors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	

Notes	
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.

Key	
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)
PDF	Portable Document Format readable by Adobe® Acrobat Reader Version **[number]** or later
DWG	Autodesk® AutoCAD .dwg format Version **[number]**
DOC	Microsoft® Word .docx format Version **[number]**
EXC	Microsoft® Excel .xls or .xml format Version **[number]**
DB	Microsoft® Access .mdb format Version **[number]**

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~~Exhibit B—FORESEEABLE BAD WEATHER DAYS~~

~~Month~~	~~Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) (1)~~	~~Ambient Outdoor Air Temperature (degrees F)~~	
		~~Number of Foreseeable Bad Weather Days in Month Based on Low Temperature (at 11:00 a.m.)~~	~~Number of Foreseeable Bad Weather Days in Month Based on High Temperature (at 3:00 p.m.)~~
~~January~~			
~~February~~			
~~March~~			
~~April~~			
~~May~~			
~~June~~			
~~July~~			
~~August~~			
~~September~~			
~~October~~			
~~November~~			
~~December~~			
~~Notes:~~ ~~1. Two inches of sleet equal one inch of rain. Five inches of wet, heavy snow equal one inch of rain. Fifteen inches of "dry" powder snow equals one inch of rain.~~			

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Exhibit C—GEOTECHNICAL BASELINE REPORT SUPPLEMENT TO THE SUPPLEMENTARY CONDITIONS

1.01 *Definitions*

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

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

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

5.03 *Subsurface and Physical Conditions*

SC 5.03 Delete Paragraph 5.03 in its entirety and replace with the following:

5.03 *Subsurface and Physical Conditions*

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

1. those reports of explorations and tests of subsurface conditions at or adjacent to the Site (other than any Geotechnical Data Report or Geotechnical Baseline Report) that contain Technical Data. Such reports are as follows:

a. *Report Title:* **[Exact title of the document]**

b. *Date of Report:* **[Date report was issued]**

c. *Technical Data in report upon which Contractor may rely*: **[Identify Technical Data (for example, "Boring Log, Test Site 3") and specify page number or other reference where Technical Data is located within the report. List multiple Technical Data line items per entry when appropriate.]**

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. Such drawings are as follows:

a. *Drawings Title:* **[Exact title of the drawings]**

b. *Date of Drawings:* **[Date drawings were issued]**

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c. *Technical Data in drawings upon which Contractor may rely:* **[Identify Technical Data (for example, "Plan View of Rock Outcroppings") in drawings, or state "All information in drawing" if entire content is Technical Data entitled to reliance; and specify drawing number, page number, or other reference where the Technical Data is located. List multiple Technical Data line items per entry when appropriate.]**

3. Contractor may examine copies of reports and drawings identified immediately above that were not included with the Bidding Documents at **[location]** during regular business hours, or may request copies from Engineer, at the cost of reproduction.

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 SC-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 Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in 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; or

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

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.

E. *Geotechnical Baseline Report*

1. This Contract contains a Geotechnical Baseline Report ("GBR"), identified as follows: **[Example: Geotechnical Baseline Report for Northwest Interceptor, dated February 12, 2013, prepared by ABC Geotechnical Engineers, Inc., Sacramento, California]**. This Contract also contains a Geotechnical Data Report (GDR), identified as follows: **[Example: Geotechnical Data Report for Northwest Interceptor, dated June 15, 2012, prepared by ABC Geotechnical Engineers, Inc., Sacramento, California]**.

2. The GBR and GDR are incorporated as Contract Documents. The GBR and GDR are to be used in conjunction with other Contract Documents, including the Drawings and

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Specifications. If there is a conflict between the terms of the GBR and the GDR, the GBR's terms prevail.

3. The GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations (referred to here in the Supplementary Conditions as "Baseline Conditions"). These may include ground, geological, groundwater, and other subsurface geotechnical conditions, and baselines of anticipated Underground Facilities or subsurface structures.

4. The Baseline Conditions will be used to assist in the administration of the Contract's differing site conditions clause at locations where subsurface conditions have been baselined. If a condition is baselined in the GBR, then only the pertinent Baseline Conditions will be used to determine whether there is a differing site condition; and no other indication of that condition in the Contract Documents or Technical Data, or of a condition that describes, quantifies, or measures a similar characteristic of the subsurface, will be used for the differing site condition determination.

5. The Baseline Conditions will not be used to make differing site conditions determinations at locations that have not been baselined in the GBR, or at any location with respect to subsurface conditions that the Baseline Conditions do not address. If Underground Facilities or Hazardous Environmental Conditions are expressly addressed in the Baseline Conditions, then comparison to such Baseline Conditions will be the primary means of determining (a) whether an Underground Facility was shown or indicated with reasonable accuracy, as provided in Paragraph 5.05 of the General Conditions, or (b) whether a Hazardous Environmental Condition was shown or indicated in the Contract Documents as indicated in Paragraph 5.06.H of the General Conditions. As indicated in Paragraph SC-5.04 below, the GDR will be the primary resource for differing site conditions determinations in cases in which the GBR is inapplicable.

6. The descriptions of subsurface conditions provided in the GBR are based on geotechnical investigations, laboratory tests, interpretation, interpolation, extrapolation, and analyses. Neither Owner, Engineer, nor any geotechnical or other consultant warrants or guarantees that actual subsurface conditions will be as described in the GBR, nor is the GBR intended to warrant or guarantee the use of specific means or methods of construction.

7. The behavior of the ground during construction depends substantially upon the Contractor's selected means, methods, techniques, sequences, and procedures of construction. If ground behavior conditions are baselined in the GBR, they are based on stated assumptions regarding construction means and methods.

8. The GBR will not reduce or relieve Contractor of its responsibility for the planning, selection, and implementation of safety precautions and programs incident to Contractor's means, methods, techniques, sequences, and procedures of construction, or to the Work.

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~~5.04 *Differing Subsurface or Physical Conditions*~~

~~SC-5.04 Delete Paragraph 5.04 in its entirety and replace with the following:~~

~~5.04 *Differing Subsurface or Physical Conditions*~~

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

~~1. differs materially from conditions shown or indicated in the GBR; or~~

~~2. differs materially from conditions shown or indicated in the GDR, to the extent the GBR is inapplicable; or~~

~~3. differs materially from conditions shown or indicated in Contract Documents other than the GBR or GDR, to the extent the GBR and GDR are inapplicable; or~~

~~4. to the extent the GBR and GDR are inapplicable, is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or~~

~~5. to the extent the GBR and GDR are inapplicable, is of such a nature as to require a change in the Drawings or Specifications; or~~

~~6. to the extent the GBR and GDR are inapplicable, 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 conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.~~

~~B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph SC-5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption or continuation 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 or continuation 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.~~

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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 SC-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 of the General Conditions; 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; or

    b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

    c. Contractor failed to give the written notice as required by Paragraph SC-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 must 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 of the General Conditions governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 of the General Conditions governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of

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~~Paragraphs SC-5.03 and SC-5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.~~

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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.
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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.
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4. Duties of Parties and Other Participants in Formal Dispute Resolution Process
   A. Attendance.
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   C. The Mediation Fee shall be paid in accordance with G.S. 143-128(g).
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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.

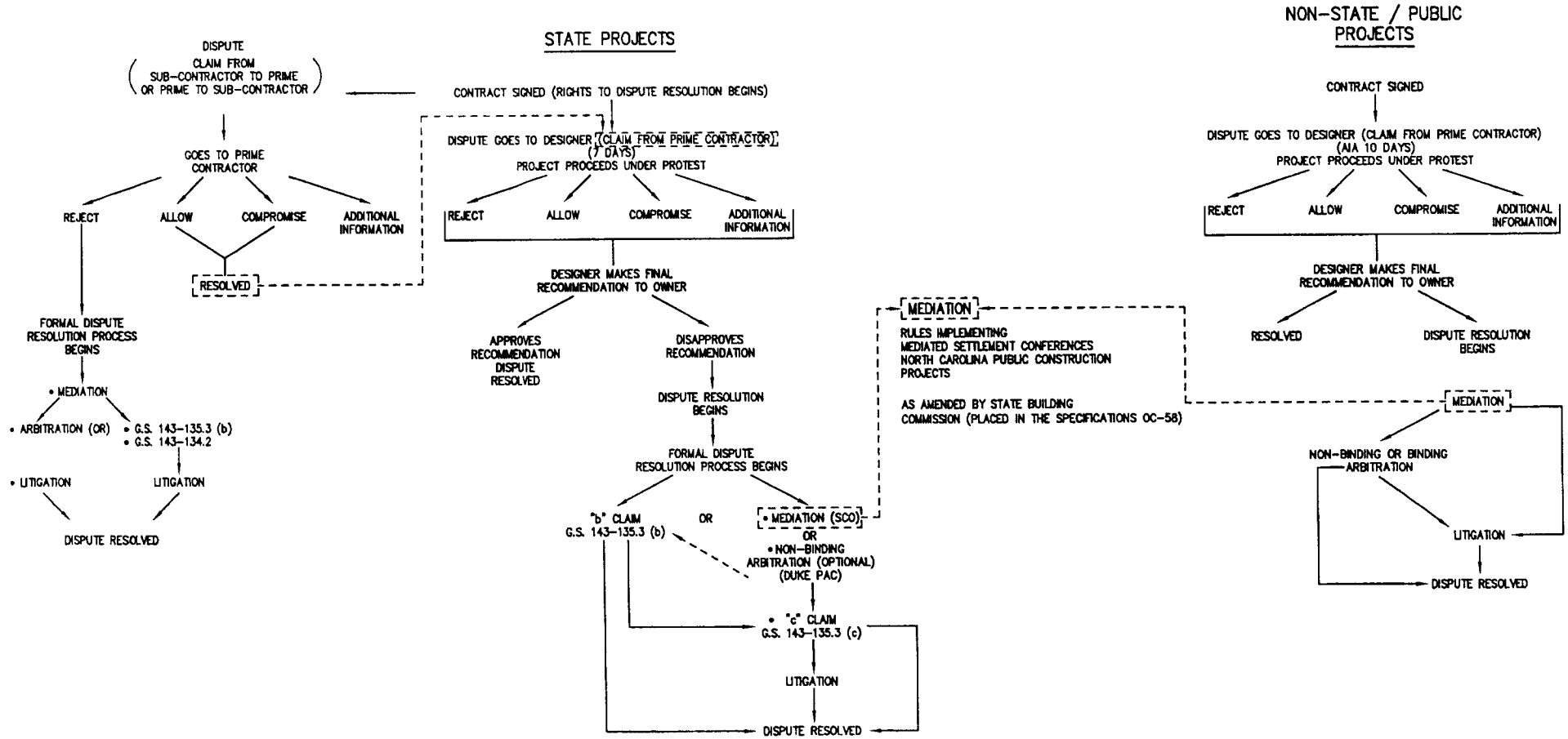
RULE 10. TIME LIMITS

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

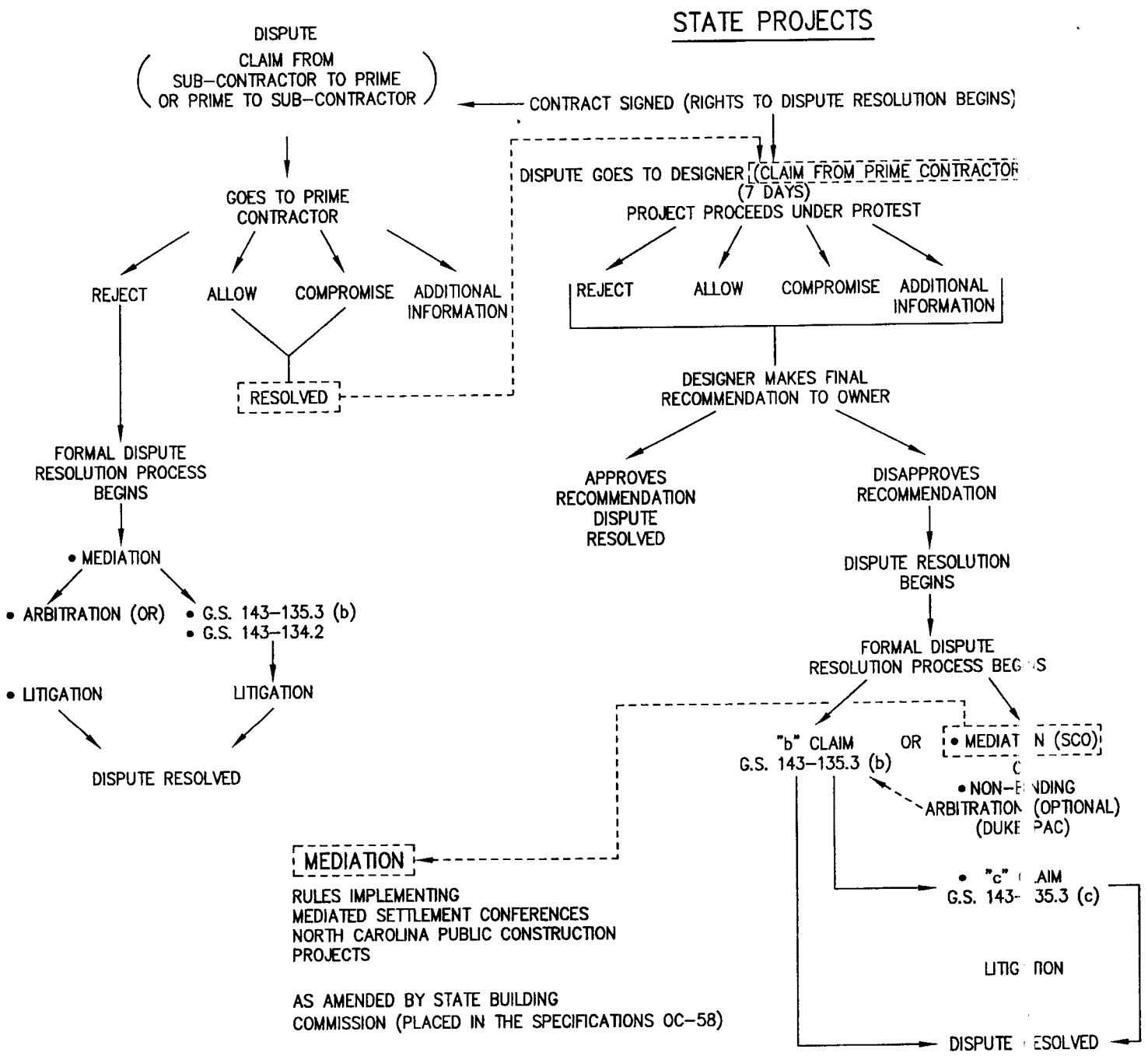
DISPUTE RESOLUTION



2/26/02

Exhibit A

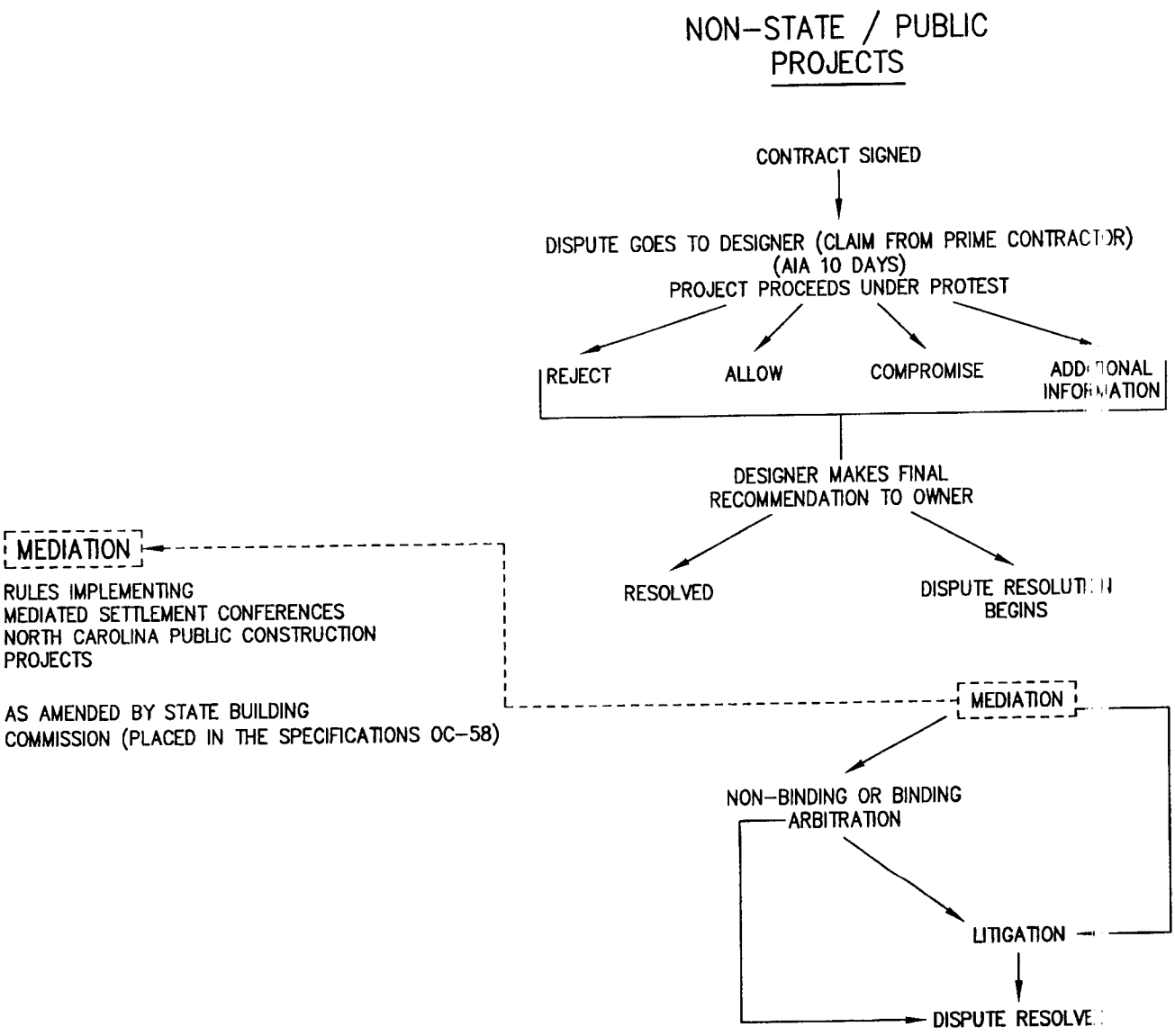
DISPUTE RESOLUTION



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Exhibit A

DISPUTE RESOLUTION



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00 73 16 INSURANCE REQUIREMENTS

ARTICLE 1 – GENERAL PROVISIONS

1.01 CONTRACTOR'S INSURANCE

A. Obtain and maintain insurance that complies with this Section with coverage amounts equal to or greater than the amounts specified in Article 2 or greater where required by Laws and Regulations.

B. Coverage is to remain in effect at least until the Work is complete and longer if expressly required elsewhere in this Contract, and when Contractor may be correcting, removing, or replacing Defective Work as a warranty or correction obligation, or returning to the Site to conduct other tasks arising from the Contract.

C. Coverage is to apply with respect to the performance of the Work, whether 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.

D. Obtain insurance from companies that are duly licensed or authorized in the state in which the Project is constructed to issue insurance policies for the required limits and coverages and that have an A.M. Best rating of A-VIII or better.

E. Alternative forms of insurance coverage, including self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not acceptable to meet the insurance requirements of this Contract.

F. Owner will not purchase or maintain insurance to protect the interest of the Contractor, Subcontractors, or others in the Work. Owner does not represent that the insurance coverage and limits established in this Contract are 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 and including the cost of this insurance in the offered Contract Price.

G. Contractor is fully responsible for all losses arising out of, resulting from or connected with operations under this Contract whether or not these losses are covered by insurance. The acceptance of evidence of insurance by the OWNER, or others listed as an additional insured, that does not comply with the Contract requirements does not release the Contractor from the requirement to comply with Contract requirements.

H. The required insurance and insurance limits do not limit the Contractor's liability under the indemnities granted to Owner's Indemnitees in the Contract Documents.

I. Do not perform any Work on the Project unless the required insurance policies are in effect. Owner may exclude the Contractor from the Site and exercise Owner's termination rights under the General Conditions if Contractor fails to obtain or maintain the required insurance.

J. Policies must provide notice before cancellation, non-renewal or any material change in the policy's terms and conditions as described in Paragraph **[1.04.D]**. Contractor is to notify Owner and the additional insured of any notice received within 3 days of receipt of a notice by Contractor. Contractor is to cease all Work covered by cancelled or non-renewed

insurance if suitable coverage is not in place in time to prevent a lapse in coverage. Contractor is solely responsible for any delays associated with lapsed coverage.

K. Owner may elect, but is in no way obligated, to obtain equivalent insurance to protect Owner's interests without prejudice to any other right or remedy if the Contractor fails to obtain or maintain the required insurance. Owner may impose a reasonable set-off against payments to recover the cost of the insurance.

L. Owner's policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's policies to meet any of Contractor's obligations to the Owner, Engineer, or third parties.

1.02 SUBCONTRACTOR OR SUPPLIER INSURANCE

A. Require Subcontractors to purchase and maintain workers' compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project. Include OWNER as additional insureds on Subcontractor's policies in accordance with Paragraph **[1.03]**.

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

C. Contractor is liable for all losses that would have been covered by Subcontractor or Supplier insurance if Subcontractor or Supplier fails to provide coverage.

1.03 ADDITIONAL INSURED

A. The following are to be named as an additional insured on all insurance policies, except workers' compensation insurance, builder's risk insurance, and the Contractor's professional liability insurance:

1. **City Of Fayetteville**
   Attn: **Purchasing Department**
   433 Hay Street
   Fayetteville, NC 28301

B. All insurance related notices are to be sent to the addresses listed above.

C. Notify the Owner and additional insured if the Contractor fails to purchase or maintain the insurance required by the Contract Documents.

D. All insurance policies must include a waiver of subrogation in favor of each additional insured.

E. Provide for an endorsement that the "other insurance" clause will not apply to the OWNER where the OWNER is an additional insured. Contractor's insurance is primary and non-contributory with respect to any insurance or self-insurance carried by the OWNER for liability arising out of operations under this Contract.

1.04 EVIDENCE OF INSURANCE

A. Deliver evidence of insurance, in accordance with this Section, to the Owner with the signed Contract Documents to demonstrate that Contractor has obtained the policies, coverages, and endorsements required by the Contract.

1. Continue to provide evidence Contractor is maintaining the required insurance for the duration of the Contract Times and such extended periods as required by the Contract Documents.
2. Provide this evidence of insurance to Owner and each additional insured.
3. Contractor may block out (redact) any confidential premium or pricing information and wording specific to a project or jurisdiction in any policy or endorsement furnished under this paragraph not applicable to this Contract.

B. Owner's failure to demand evidence of insurance or verify the Contractor's full compliance with insurance requirements or failure to identify a deficiency in compliance from the evidence provided is not a waiver of the Contractor's obligation to obtain and maintain the insurance required by the Contract Documents.

C. Provide evidence of insurance acceptable to the Owner with the executed Contract Documents. Provide the following as evidence of insurance:
1. Copy of insurance policies;
2. Certificates of insurance on an acceptable form;
3. Full disclosure of exclusions;
4. Declaration pages, riders, or endorsements to policies;
5. Documentation of deductibles;
6. List of named and additional insureds for each policy; and
7. Evidence that waivers of subrogation are provided on applicable policies.

D. Provide evidence of a requirement in the policy that at least 10 days' notice will be given before cancellation, non-renewal or any material change in the policy's terms and conditions including:
1. Type of coverage provided;
2. Riders or endorsements to policies;
3. Policy limits of coverage;
4. Change in deductible amount;
5. Status of named or additional insured; or
6. Waivers of subrogation.

E. Certificates of Insurance:
1. Submit certificates of insurance meeting the applicable requirements of the applicable state department of insurance. No requirement of this Contract may be interpreted as requiring the issuance of a certificate of insurance on a form that has not first been filed with and/or approved by the applicable state department of insurance.
2. Include the name of the Project in the description of operations box on the certificate of insurance, and the name of each additional insured.

F. Continuing Evidence of Coverage:

1. Provide updated, revised, or new evidence of insurance prior to the expiration of existing policies. A certificate of insurance is acceptable as evidence of renewal of insurance policies, provided no changes are made in the policy originally provided with signed Contract Documents.

2. Provide evidence of continuation of insurance coverage at final payment and for the following 3 years.

ARTICLE 2 – INSURANCE COVERAGE AMOUNTS AND POLICY REQUIREMENTS

2.01 CONTRACTOR'S INSURANCE

A. Workers' Compensation and Employer's Liability Insurance:

1. Purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation, including off-site operations.

2. Provide the following coverage with not less than the minimum limits indicated:

Workers' Compensation and Related Insurance	Policy Limits
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshore)	Statutory
Foreign Voluntary Workers' Compensation (Employer's Responsibility Coverage), if Applicable	Statutory
Employers' Liability	
Each Accident	$500,000.00
Each Employee	$500,000.00
Policy Limit	$500,000.00

B. Commercial General Liability

1. Purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

a. Damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

b. Damages insured by reasonably available personal injury liability coverage; and

c. Damages because of injury to or destruction of tangible property wherever located, including loss of use resulting from the damage.

2. Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form).

a. Provide 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). Equivalent endorsements may be

used if Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available.

b. Provide ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent for Engineer additional insured.

3. Provide the following coverages and endorsements:

   a. Products and completed operations coverage.

      1) Maintain coverage for 3 years after final payment.

      2) Provide Owner and each other additional insured evidence of continuation of such insurance at final payment and for 3 years thereafter.

   b. Blanket contractual liability coverage, including coverage of Contractor's contractual indemnity obligations in the General Conditions.

   c. Severability of interests and no insured-versus-insured or cross-liability exclusions.

   d. Underground, explosion, and collapse coverage.

   e. Personal injury coverage.

4. The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:

   a. Modifications 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).

   b. Exclusion for water intrusion or water damage.

   c. Provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.

   d. Exclusion of coverage relating to earth subsidence or movement.

   e. Exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than workers' compensation).

   f. Limitations or exclusions based on the nature of Contractor's work.

   g. Professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

5. Provide the following coverage with not less than the minimum limits indicated:

Commercial General Liability Insurance	Policy Limits
General Aggregate	$2,000,000.00
Products - Completed Operations	$2,000,000.00
Personal and Advertising Injury (Limit Per Person)	$1,000,000.00
Bodily Injury and Property Damage – Each Occurrence	$1,000,000.00

C. Automobile Liability:

1. Purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis. Coverage can be provided through individual limits for bodily injury and for property damage or a combined single limit covering both bodily injury and property damage.

2. Provide the following coverage with not less than the minimum limits indicated:

Automobile Liability Insurance	Policy Limits
Bodily Injury	
Each Person	$1,000,000.00
Each Accident	$1,000,000.00
Property Damage	
Each Accident	$1,000,000.00
Combined Single Limit	
Combined Single Limit for Bodily Injury and Property Damage	$1,000,000.00

END OF SECTION

00 73 21 CERTIFICATE OF FINANCE OFFICER

Provisions for the payment of the monies to fall due under this agreement has been made by appropriation duly made or by bonds or notes duly authorized, as required by the "Local Government Budget and Fiscal Control Act".

_____
Finance Officer

_____
Date

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00 73 30 LIST OF FORM TEMPLATES

Form Title
Notice of Award
Notice to Proceed
Application for Payment
Certification of Substantial Completion
Notice of Acceptability
Work Change Directive
Change Order
Field Order

END OF SECTION

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01 11 00 SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

A. Construct Work as described in the Contract Documents.

1. Provide the materials, equipment, and incidentals required to make the Project completely and fully operable.
2. Provide the labor, equipment, tools, and consumable supplies required for a complete Project.
3. Provide the civil, architectural, structural, mechanical, electrical, instrumentation, and all other Work required for a complete and operable Project.
4. Test and place the completed Project in operation.
5. Provide the special tools, spare parts, lubricants, supplies, or other materials as indicated in the Contract Documents for the operation and maintenance of the Project.
6. The Contract Documents do not indicate or describe all Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Engineer

B. Owner may pre-select or pre-purchase goods for this Project per Section 01 64 00 “Owner-Furnished Goods and Special Services.” Install these goods and coordinate the performance of specified special services.

1.02 DESCRIPTION OF WORK

A. Work is described in general, non-inclusive terms as:

1. **Sidewalk**
2. **Curb and Gutter**
3. **Driveway Apron**
4. **Do not include subsidiary or incidental work**

1.03 WORK UNDER OTHER CONTRACTS

A. The Owner has no knowledge of work, other than the Work included in this Contract, which may impact construction scheduling, testing, and startup.

1.04 WORK BY OWNER

A. The Owner has no knowledge of work, other than the Work included in this Contract that may impact construction scheduling, testing, and startup.

B. Owner will provide normal operation and maintenance of the existing facilities during construction, unless otherwise stated.

1.05 CONSIDERATION AND COOPERATION WITH UTILITIES

A. Prior to the beginning of construction, the City of Fayetteville will notify all utility owners known to have facilities affected by the construction of the project and will make arrangements for the necessary adjustments of all affected public or private utility facilities. The utility adjustments may be made either before or after the beginning of construction of the project. The adjustments will be made by the utility owner or their representative or by the Contractor when such adjustments are identified on the contract drawings or in the summary of work.

B. The Contractor shall include the cost of any coordination and cooperation with utilities in their bid.

1. Prior to submission of bid, the Contractor shall make their own determination as to the following:

a. the nature and extent of the utility facilities including but not limited to proposed adjustments, new facilities, or temporary work to be performed by the utility owner or their representative.

b. whether or not any utility work is planned by the utility owner in conjunction with the project construction.

2. The Contractor shall consider in their bid all of the permanent and temporary utility facilities in their present or relocated positions, whether or not specifically shown in the plans or covered in the special provisions. It will be the Contractor's responsibility to anticipate additional costs to them resulting from such utilities and to reflect these costs in their bid for the various items in the contract.

3. No additional compensation shall be allowed for delays or inconvenience sustained by the Contractor due to utility relocation or adjustments.

C. The Contractor shall use NC811 to locate utilities and shall use special care working in, around, and near all existing utilities.

1. Protect all utilities encountered (see 01 31 00 "Project Management and Coordination").

2. No additional compensation will be made for excavating near or around existing utilities, for purposes of locating or preservation. Not all utilities (above ground or underground) will be relocated – the Contractor shall consider any mechanized and/or hand-digging necessary to preserve the integrity of utilities in their bid price.

3. Damage to Existing Utilities

a. If the Work is delayed as a result of damage to an **improperly** marked utility, the Contractor may request an extension of the Contract Time in accordance with these Contract Documents. Should the Contractor determine compensation for the damages is also warranted, the Contractor will follow the change management process as outlined in these documents.

b. If the Work is delayed as a result of damage to a **properly** marked utility, no additional Contract Time or compensation shall be granted.

D. Unforeseen conditions and utilities are the responsibility of the contractor to remove or relocate. Contractor shall follow the change management process for potential adjustments to Contract Time or Contract Price.

E. Any changes to utilities made solely for the convenience of the Contractor shall be the Contractor's responsibility to arrange for and bear all costs pertaining to and resulting from such changes.

1.06 CONSTRUCTION OF UTILITIES

A. Power and Electrical Services:

1. Contractor shall provide permanent power connections for the Site through the power utility unless indicated otherwise in the Contract Documents.

2. Contractor shall procure and pay for permits and for providing permanent power.

3. Coordinate and cooperate with others performing this Work.

4. Provide conduit, conductors, pull boxes, manholes, and other appurtenances for the installation of power cable between the property line and the transformer and between the transformer and the main power switch unless the Contract Documents indicate otherwise.

5. Test conductors in accordance with the Specifications and requirements of the power utility and coordinate with the power utility to energize the system when ready.

6. Pay for temporary power including construction cost, meter connection, fees, and permits.

7. Contractor may request to use the permanent power source in lieu of temporary power source when permanent power is available at the Site. Requests to use the permanent power source may be submitted to the Engineer and City of Fayetteville. If approved, arrange with the power utility and pay the charges for connections and monthly charges for use of this power.

8. Pay for the power consumed until the Project has been accepted as Substantially Complete unless noted otherwise.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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01 26 00 CHANGE MANAGEMENT

PART 1 - GENERAL

1.01 REQUESTS FOR CHANGE PROPOSAL – OWNER INITIATED

A. Engineer will initiate Modifications by issuing a Request for Change Proposal ("RCP").

1. Engineer will prepare a description of proposed Modifications.

2. Engineer will issue the RCP form to Contractor. A number will be assigned to the Request for an RCP when issued.

3. Contractor will return a Change Proposal in accordance with Paragraph **[1.02]** for evaluation by the Owner.

1.02 CHANGE PROPOSALS – CONTRACTOR INITIATED

A. Submit a Change Proposal ("CP") to the Engineer for Contractor-initiated changes in the Contract Documents or in response to a RCP. Submit the Change Proposal and attach the forms provided by the Engineer.

1. Use the Change Proposal form provided by the Engineer.

2. Include with the Change Proposal:

a. A complete description of the proposed Modification if Contractor-initiated or proposed changes to the description of the proposed Modification.

b. The reason the Modification is requested, if not in response to a RCP.

c. A detailed breakdown of the cost of the change if the Modification requires a change in Contract Price. The itemized breakdown is to include:

1) List of materials and equipment to be installed;

2) Man hours for labor by classification;

3) Equipment used in construction;

4) Consumable supplies, fuels, and materials;

5) Royalties and patent fees;

6) Bonds and insurance;

7) Overhead and profit;

8) Field office costs;

9) Home office cost; and

10) Other items of cost.

d. Provide the level of detail outlined in the paragraph above for each Subcontractor or Supplier actually performing the Work if Work is to be provided by a Subcontractor or Supplier. Indicate appropriate Contractor mark-ups for Work provided through Subcontractors and Suppliers. Provide the level of detail outlined in the paragraph above for self-performed Work.

e. Submit CPs that comply with the General Conditions for Cost of Work.

f. Provide a revised schedule. Show the impact of the change on the Project Schedule and the Contract Times.

B. Submit a CP to the Engineer to request a Field Order.

C. A Change Proposal is required for all substitutions or deviations from the Contract Documents.

D. Request changes to products in accordance with Section 01 33 02 “Shop Drawings.”

1.03 ENGINEER WILL EVALUATE THE REQUEST FOR A MODIFICATION

A. Engineer will issue a Modification per the General Conditions if the CP is acceptable to the Owner. Engineer will issue a Change Order or Contract Amendment for any changes in Contract Price or Contract Times.

1. Change Orders and Contract Amendments will be sent to the Contractor for execution with a copy to the Owner recommending approval. A Work Change Directive may be issued if Work needs to progress *before* the Change Order or Contract Amendment can be authorized by the Owner.

2. Work Change Directives, Change Orders, and Contract Amendments can only be approved by the Owner.

a. Work performed on the CP prior to receiving a Work Change Directive or approval of the Change Order or Contract Amendment is performed at the Contractor’s risk.

b. No payment will be made for Work on Change Orders or Contract Amendments until approved by the Owner.

B. Contractor may be informed that the CP is not approved and construction is to proceed in accordance with the Contract Documents.

1.04 EQUAL NON-SPECIFIED PRODUCTS

A. The products of the listed manufacturers are to be furnished where the Specifications list several manufacturers and do not specifically list “or equal” or “or approved equal” products. Use of any products other than those specifically listed is a substitution. Follow the procedures in Paragraph **[1.05]** for a substitution.

B. Contractor may submit other manufacturers’ products that are in full compliance with the Specifications where Specifications list one or more manufacturers followed by the phrase “or equal” or “or approved equal.”

1. Submit a Shop Drawing as required by Section 01 33 02 “Shop Drawings” to document that the proposed product is equal or superior to the specified product.

2. The burden of proof for equality rests with the Contractor:

a. Indicate on a point-by-point basis for each specified feature that the product is equal to the Contract Document requirements.

b. Make a direct comparison with the specified manufacturer’s published data sheets and available information. Provide this printed material with the Shop Drawing.

c. The decision of the Engineer regarding the acceptability of the proposed product is final.

3. Provide a certification that, in furnishing the proposed product as an equal, the Contractor:

a. Has thoroughly examined the proposed product and has determined that it is equal or superior in all respects to the product specified.

b. Has determined that the product will perform in the same manner and result in the same process as the specified product.

c. Will provide the same warranties and/or bonds as for the product specified.

d. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the product into the construction and will waive all claims for additional Work which may be necessary to incorporate the product into the Project which may subsequently become apparent.

e. Will maintain the same time schedule as for the specified product.

C. A CP is not required for any product that is in full compliance with the Contract Documents. If the product is not in full compliance, it may be offered as a Substitution.

1.05 SUBSTITUTIONS

A. Substitutions are defined as any product that the Contractor proposes to provide for the Project in lieu of the specified product. Submit a Change Proposal per Paragraph **[1.02]** along with documents required for a Shop Drawing as required by Section 01 33 02 "Shop Drawings" to request approval of a substitution.

B. Prove that the product is acceptable as a substitute. It is not the Engineer's responsibility to prove the product is not acceptable as a substitute.

1. Indicate on a point-by-point basis for each specified feature that the product is acceptable to meet the intent of the Contract Documents requirements.

2. Make a direct comparison with the specified Suppliers published data sheets and available information. Provide this printed material with the Shop Drawing.

3. The decision of the Engineer regarding the acceptability of the proposed substitute product is final.

C. Provide a certification that, in making the substitution request, the Contractor:

1. Has determined that the substituted product will perform in substantially the same manner and result in the same ability to meet the specified performance as the specified product;

2. Will provide the same warranties and/or bonds for the substituted product as specified or as would be provided by the manufacturer of the specified product;

3. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the substituted product into the Project and will waive all claims for additional Work which may be necessary to incorporate the substituted product into the Project which may subsequently become apparent; and

4. Will maintain the same time schedule as for the specified product.

D. Pay for review of substitutions in accordance with Section 01 33 02 “Shop Drawings.”

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 29 00 APPLICATION FOR PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Submit Applications for Payment for completed Work and for materials and equipment in accordance with the General Conditions, the Supplementary Conditions, the Agreement, and this Section. The Contract Price is to include costs for:

1. Providing the Work in accordance with the Contract Documents;
2. Installing Owner furnished equipment and materials, if any;
3. Providing Work for alternates and allowances, if any;
4. Providing Work for extra work items, if any and if authorized
5. Commissioning, startup, training, and initial maintenance and operation;
6. Acceptance testing at the manufacturer's facilities or at the Site;
7. All home office overhead costs and expenses, including profit made directly or indirectly from the Project;
8. Project management, contract administration, and field office and field operations staff including supervision, clerical support, and technology system support;
9. Professional services including design fees, legal fees, and other professional services;
10. Bonds and insurance;
11. Permits, licenses, patent fees, and royalties;
12. Taxes;
13. Providing all documentation and Samples required by the Contract Documents;
14. Facilities and equipment at the Site including:
    a. Field offices, office furnishings, and all related office supplies, software, and equipment,
    b. Storage facilities for Contractor's use and storage facilities for stored materials and equipment including spare parts storage,
    c. Shops, physical plant, construction equipment, small tools, vehicles, and technology and telecommunications equipment,
    d. Safety equipment and facilities to provide safe access and working conditions for workers and for others working at the Site,
    e. Temporary facilities for power and communications,
    f. Potable water and sanitation facilities, and
    g. Mobilization and demobilization for all these facilities and equipment.
15. Products, materials, and equipment stored at the Site or other suitable location in accordance with Section 01 31 00 "Project Management and Coordination";

16. Products, materials, and equipment permanently incorporated into the Project;
17. Temporary facilities for managing water including facilities for pumping, storage, and treatment as required for construction and protection of the environment;
18. Temporary facilities for managing environmental conditions and Constituents of Concern;
19. Temporary facilities such as sheeting, shoring, bracing, formwork, embankments, storage facilities, working areas, and other facilities required for construction of the Project;
20. Temporary and permanent facilities for protection of all overhead, surface, or underground structures or features;
21. Temporary and permanent facilities for removal, relocation, or replacement of any overhead, surface, or underground structures or features;
22. Products, materials, and equipment consumed during the construction of the Project;
23. Contractor labor and supervision to complete the Project including that provided through Subcontractors or Suppliers;
24. Correcting Defective Work during the Contract Times, during the Correction Period, or as required to meet any warranty provision of the Contract Documents;
25. Risk associated with weather and environmental conditions, startup, and initial operation of facilities including equipment, processes, and systems;
26. Contractor safety programs, including management, administration, and training;
27. Maintenance of facilities including equipment, processes, and systems until operation is transferred to Owner;
28. Warranties, extended or special warranties, or extended service agreements;
29. Cleanup and disposal of any and all surplus materials; and
30. Demobilization of all physical, temporary facilities not incorporated into the Project.

B. Include the cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price.

C. Provide Sales Tax Certificates

1. Complete City of Fayetteville forms certifying sales tax paid on all materials used in construction. The Contractor may use his own forms as long as the information requested by the City certificated is supplied.
2. The certificate shall be furnished with each pay request, regardless of amount, and list taxes for all items included in the pay request.
3. In the event the pay request does not include any taxable items, the certificate is still required and must certify this fact.
4. Pay requests without required certificate may be denied approval and payment until the certificate is provided.

D. Provide written approval of the surety company providing performance and payment bonds for the Schedule of Values, Application for Payment form, and method of payment prior to submitting the first Application for Payment. Submit approval using the "Consent of Surety Company to Payment Procedures" form provided by the Engineer. Payment will not be made without this approval.

E. Engineer may withhold processing the Applications for Payment if any of the following processes or documentation is not up to date:

1. Progress Schedule per Section 01 33 05 "Construction Progress Schedule." Failure to submit Progress Schedules will cause delay in the review and approval of subsequent Applications for Payment.

2. Project videos and photographs per Section 01 33 06 "Graphic Documentation."

3. Record Documents per Section 01 31 13 "Project Coordination."

4. Documentation required to comply with Section 00 41 00 "SDBE Program."

F. Submit, via a separate submittal, updated red-line drawings every month in conjunction with the pay application. Failure to submit Monthly Red-Line Drawings will cause delay in the review and approval of subsequent Applications for Payment. See 01 31 13 "Project Coordination" Paragraph 1.11 for reference.

1.02 SCHEDULE OF VALUES

A. Divide the Contract Price into an adequate number of line items to allow more accurate determination of the earned value for each line item when evaluating progress payments. Submit a detailed Schedule of Values for the Project at least 10 days prior to submitting the first Application for Payment using forms provided by the Engineer.

B. Do not apply for payment until the Schedule of Values has been approved by the Engineer.

C. Divide the cost associated with each line item in the Schedule of Values into installation and materials components.

1. Installation cost is to include all cost associated with the line item except materials cost.

2. Materials cost is the direct cost (as verified by invoice values) for products, materials, and equipment to be permanently incorporated into the Project associated with the line item.

3. Installation cost is to include all direct costs and a proportionate amount of the indirect costs for the Work associated with each line item. Include costs not specifically set forth as an individual payment item but required to provide a complete and functional system.

4. The sum of materials and installation costs for all line items must equal the Contract Price.

D. Use each unit price line item in the Agreement as a line item in the Schedule of Values. The sum of materials and installation costs for each line item for unit price contracts must equal the value of the line item in the Agreement. In addition to the installation cost described in Paragraph **[1.02.C.3]**, installation costs for unit price items are to include costs for waste and overages.

1. Installation and materials cost may be left as a single installation component if:
    a. Contractor does not intend to request payment for stored materials for that line item; or
    b. Work in the line item will be completed within a single payment period.
2. Provide adequate detail to allow a more accurate determination of the earned value for installation costs, expressed as a decimal fraction of Work completed, for each line item.
3. Installation cost line items may not exceed $50,000.00. Items that are not subdivided into smaller units may only be included in the Application for Payment when Work on the entire unit is complete.
4. Lump sum items may be divided into an estimated number of units to estimate earned value. The estimated number of units times the cost per unit must equal the lump sum amount for that line item.
5. Include Contractor's overhead and profit in the installation costs each line item in proportion to the value of the line item to the Contract Price.
6. Include cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price for each item.
7. Line items may be used to establish the value of Work to be added or deleted from the Project.

E. Include a breakdown of both mobilization and demobilization costs in the Schedule of Values. The total cost for both mobilization and demobilization may not exceed five percent (5%) of the total Contract Price. Payment for mobilization and demobilization will be made over the first two payments. Payment for these costs will only be made for Work completed for the following:
    1. Bonds and insurance;
    2. Transportation and setup for equipment;
    3. Transportation and/or erection of all field offices, sheds, and storage facilities;
    4. Salaries for preparation of documents required before the first Application for Payment; and
    5. Salaries for field personnel directly related to the mobilization of the Project.

1.03 SCHEDULE OF ANTICIPATED PAYMENTS

A. Submit a schedule of the anticipated Application for Payments showing the anticipated application numbers, submission dates, and the amount to be requested for each Application for Payment on the form provided by the Engineer.

B. Update the schedule of anticipated payments as necessary to provide a reasonably accurate indication of the funds required to make payments each month to the Contractor for Work performed.

1.04 EXTRA WORK ITEMS

A. Include line items and amounts for Extra Work items in the Agreement, if any, and as described in Section 01 29 01 “Measurement and Basis for Payment.”

1.05 RETAINAGE AND SET-OFFS

A. Retainage will be withheld from each Application for Payment per the Agreement.

B. Reduce payments for set-offs per the General Conditions as directed by the Engineer.

1.06 PROCEDURES FOR SUBMITTING AN APPLICATION FOR PAYMENT

A. Submit a draft Application for Payment to the Engineer each month on the twenty-fifth (25^{th}) day of the month. Do not submit Applications for Payment more often than monthly unless approved by the City of Fayetteville. Review the draft Application for Payment with the Engineer to determine concurrence with:

1. Values requested for materials and equipment, stored or incorporated into the Project as documented by invoices;

2. The earned value for installation costs for each line item in the Application for Payment form expressed as a percent complete for that line item;

3. The quantity of Work completed for each unit price item;

4. Amount of retainage to be held; and

5. Set-offs included in the Application for Payment.

B. Submit Applications for Payment to the Engineer after agreement has been reached on the draft Application for Payment with the Engineer.

C. Provide all information requested in the Application for Payment form. Do not leave any blanks incomplete. If information is not applicable, enter “N/A” in the space provided.

1. Number each application sequentially and include the dates for the application period.

2. Complete the “Contract Time Summary” section on the Application for Payment form. If the Final Completion date shows the Project is more than 30 days behind schedule, revise the Schedule of Anticipated Payments to correspond to the updated schedule required per Section 01 33 05 “Construction Progress Schedule.”

3. Complete the “Summary of Earned Value and Set-offs” section on the Application for Payment form. Show the total amounts for earned value of original Contract performed, earned value for Work on approved Contract Amendments and Change Orders, retainage and set-offs.

4. Sign and date the Contractor’s Certification on the Application for Payment form that all Work, including materials, covered by this Application for Payment have been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous Payment has been made by the Owner, and that the current payment amount shown in this Application for Payment is now due.

5. Include “Attachment A - Tabulation of Earned Value of Original Contract Performed” to show the value of materials stored and successfully incorporated into the Project and the earned value for installation of the Work for each line item in the Application for Payment for Work. Attachment A includes Work on the original Contract Price and on approved Contract Amendments and Change Orders.

6. Include “Attachment B - Tabulation of Values for Materials and Equipment” to track invoices used to support amounts requested as materials in Attachment A. Enter materials to show the amount of the invoice assigned to each item in Attachment A if an invoice includes materials used on several line items.

7. Include “Attachment C - Summary of Set-offs” to document set-offs made per the Contract Documents. Show each set-off as it is applied. Show a corresponding line item to reduce the set-off amount if a payment held by a set-off is released for payment.

8. Include “Attachment D - Retainage Calculation” to show method for calculating retainage. The amount of retainage with respect to progress payments is stipulated in the Agreement. Any request for a reduction in retainage must be accompanied by a Consent of Surety to Reduction or Partial Release of Retainage.

9. Include “Attachment E - EVA Calculation” and the EVA Chart showing the anticipated and actual total earned value of fees, Work, and materials. Create a graphic representation (curve) of the anticipated progress on the Project each month. Compare the anticipated cumulative total earned value of fees, Work, and materials to the actual total earned value of fees, Work, and materials to determine performance on budget and schedule. Adjust the table and curve to incorporate Modifications.

10. Include Sales Tax Certificate.

D. Submit attachments in Portable Document Format (PDF).

1. Generate attachments to the Application for Payment using the Excel spreadsheet provided by the Engineer.

2. Submit PDF documents with adequate resolution to allow documents to be printed in a format equivalent to the document original. Documents are to be scalable to allow printing on standard 8-1/2 x 11 or 11 x 17 paper.

1.07 ADJUSTMENTS TO THE SCHEDULE OF VALUES IN THE APPLICATION FOR PAYMENT

A. Submit a Change Proposal to request any changes to the Schedule of Values incorporated into the Application for Payment once approved. A Field Order will be issued by the Engineer to modify the Application for Payment form if approved.

B. Payment for materials and equipment shown in the Application for Payment will be made for the total of associated invoice amounts, up to the value shown for materials in the Application for Payment for that line item.

1. If the total amount for invoices for materials and equipment for a line item are less than the amount shown for the materials component of that line item in the Application for Payment, and it can be demonstrated that no additional materials or equipment are required to complete Work described in that item, the difference between the total invoice for materials and equipment and the materials component for that line item can be added to the installation component of that Work item.

2. Costs for material and equipment in excess of the value shown in the Schedule of Values may not be paid for under other line items.

1.08 ENGINEER'S RESPONSIBILITY

A. Engineer will review each draft Application for Payment with Contractor to reach an agreement on the amount to be recommended to Owner for payment. Contractor is to revise the Application for Payment to incorporate changes, if any, resulting from this review process.

B. Engineer will review the Application for Payment to determine that the Application for Payment has been properly submitted and is in accordance with the agreed to draft Application for Payment.

C. Engineer will either recommend payment of the Application for Payment to Owner or notify the Contractor of the reasons for not recommending payment. Contractor may make necessary corrections and resubmit the Application for Payment. Engineer will review resubmitted Application for Payment and reject or recommend payment of the Application for Payment to Owner as appropriate.

D. Engineer's recommendation of the Application for Payment constitutes a representation that based on its experience and the information available:

1. The Work has progressed to the point indicated;

2. The quality of the Work is generally in accordance with the Contract Documents; and

3. Requirements prerequisite to payment have been met.

E. This representation is subject to:

1. Further evaluation of the Work as a functioning whole;

2. The results of subsequent tests called for in the Contract Documents; or

3. Any other qualifications stated in the recommendation.

F. Engineer does not represent by recommending payment that:

1. Inspections made to check the quality or the quantity of the Work as it was performed were exhaustive or extended to every aspect of the Work in progress; or

2. Other matters or issues that might entitle Contractor to additional compensation or entitle Owner to withhold payment to Contractor exist.

G. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of payment imposes responsibility on the Engineer or Owner:

1. To supervise, direct, or control the Work;

2. For the means, methods, techniques, sequences, or procedures of construction, or safety precautions and programs;

3. For Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;

4. To make examinations to ascertain how or for what purposes Contractor has used the monies paid on account of the Contract Price; or

5. To determine that title to the Work, materials, or equipment has passed to Owner free and clear of Liens.

1.09 FINAL APPLICATION FOR PAYMENT

A. Include adjustments to the Contract Price in the final Application for Payment for:

1. Approved Change Orders and Contract Amendments;

2. Allowances not previously adjusted by Change Order;

3. Deductions for Defective Work that have been accepted by the Owner;

4. Penalties and bonuses;

5. Deduction for all final set-offs; and

6. Other adjustments if needed.

B. Engineer will prepare a final Change Order reflecting the approved adjustments to the Contract Price which have not been covered by previously approved Change Orders and, if necessary, to reconcile estimated unit price quantities with actual quantities.

C. Submit the final Application for Payment per the General Conditions, including the final Change Order. Provide the following with the final Application for Payment:

1. Evidence of payment or release of Liens on the forms provided by the Engineer and as required by the General Conditions.

2. Consent from surety to final payment.

D. Final payment will also require additional procedures and documentation per Section 01 70 00 “Execution and Closeout Requirements.”

1.10 PAYMENT BY OWNER

A. Owner is to pay the amount recommended for monthly payments within 30 days after receipt of the Engineer’s recommended Application for Payment.

B. Final payment may take longer than 30 days since Owner’s **Engineer** must approve final payment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 29 01 MEASUREMENT AND BASIS FOR PAYMENT

PART 1 - GENERAL

1.01 PAYMENT FOR MATERIALS AND EQUIPMENT

A. Payment will be made for materials and equipment materials properly stored and successfully incorporated into the Project less the specified retainage.

1.02 MEASUREMENT AND BASIS FOR PAYMENTS ON UNIT PRICE ITEMS

A. Measure the Work using the unit of measure indicated in this Section for each unit price line item. Payment will be made only for the actual measured unit and/or computed length, area, solid contents, number, and weight unless other provisions are made in the Contract Documents. Payment on a unit price basis will not be made for Work outside dimensions shown in the Contract Documents.

B. Payment will be made for the actual quantity of Work completed and for materials and equipment stored during the payment period. Payment amount is the Work quantity measured per Paragraph A above multiplied by the unit price for that line item in the Contract.

1.03 MEASUREMENT AND BASIS FOR PAYMENT FOR BASE ITEMS

A. Item [A-01] – Traffic Control:

1. Measurement shall not be made for this item.

2. Traffic Control will be paid as contract lump sum price. Partial payments for Traffic Control will be made on the following schedule of pay estimates:

a. 50% of lump sum on First Partial Pay Estimate

b. 25% of lump sum at Completion of 50% of the Project

c. 15% of lump sum at Substantial Completion of the Project

d. 10% of lump sum at Final Payment

B. Item [A-02] – Erosion Control:

1. Measurement and payment for erosion control shall be per lump sum per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to install the system of erosion and sedimentation control measures in accordance with the approved project Erosion and Sediment Control (E&SC) plans, as well as to maintain, remove, and dispose of erosion control measures as described in the Contract Documents. Approved E&SC plans serve as the minimum requirements and additional measures and/or modifications may be required by the Engineer and shall be provided at no additional cost to the Owner.

2. Partial payments will be made at the first partial pay estimate paid on the contract at the rate of 40% of the lump sum price, on each subsequent pay estimates paid on the contract at the rate of 5% of the lump sum price, and any remaining unpaid percentage of the lump sum price will be paid on the final pay estimate on the contract.

C. Item [A-03] – Clearing and Grubbing:

1. Measurement and payment for Clearing and Grubbing to Include Grading shall be made on the basis of the unit price and shall be per lump sum per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Clearing and Grubbing as described in the Contract Documents.

D. Item [A-04] – Remove Existing Curb & Gutter:

1. Measurement and payment for Remove Existing Curb & Gutter shall be made on the basis of the unit price and shall be per liner foot per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Existing Curb & Gutter as described in the Contract Documents.

E. Item [A-05] – Remove Existing Driveway Apron:

1. Measurement and payment for Remove Existing Driveway Apron shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Existing Driveway Apron as described in the Contract Documents.

F. Item [A-06] – Remove Existing Concrete:

1. Measurement and payment for Remove Existing Concrete shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Existing Concrete as described in the Contract Documents.

G. Item [A-07] – Remove Existing Concrete:

1. Measurement and payment for Remove Existing Concrete shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Existing Concrete as described in the Contract Documents.

H. Item [A-08] – Remove Existing Fence:

1. Measurement and payment for Remove Existing Fence shall be made on the basis of the unit price and shall be per linear foot per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Existing Fence as described in the Contract Documents.

I. Item [A-09] – Remove Bollard:

1. Measurement and payment for Remove Bollard shall be made on the basis of the unit price and shall be per each per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Bollard as described in the Contract Documents.

J. Item [A-10] – Remove Brick:

1. Measurement and payment for Remove Bollard shall be made on the basis of the unit price and shall be per each per City of Fayetteville This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Remove Bollard as described in the Contract Documents.

K. Item [A-11] – Excavation, Backfilling, Grading:

1. Measurement and payment for Excavation, Backfilling, Grading shall be made on the basis of the unit price and shall be per lump sum per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Excavation, Backfilling, Grading as described in the Contract Documents.

L. Item [A-12] – Concrete Curb & Gutter (30 in. vertical):

1. Measurement and payment for Concrete Curb & Gutter (30 in. vertical) shall be made on the basis of the unit price and shall be per linear foot per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Concrete Curb & Gutter (30 in. vertical) as described in the Contract Documents.

M. Item [A-13] – Concrete Driveway Apron:

1. Measurement and payment for Concrete Driveway Apron shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Concrete Driveway Apron as described in the Contract Documents.

N. Item [A-14] – Concrete Sidewalk (4-5 ft. wide, 4 in. thick):

1. Measurement and payment for Concrete Sidewalk (4-5 ft. wide, 4 in. thick) shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Concrete Sidewalk (4-5 ft. wide, 4 in. thick) as described in the Contract Documents.

O. Item [A-15] – Curb Ramp (Blended Transition):

1. Measurement and payment for Curb Ramp (Blended Transition) shall be made on the basis of the unit price and shall be per each per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Curb Ramp (Blended Transition) as described in the Contract Documents.

P. Item [A-16] – Truncated Domes:

1. Measurement and payment for Truncated Domes shall be made on the basis of the unit price and shall be per each per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Truncated Domes described in the Contract Documents.

Q. Item [A-17] – Install Permanent Pavement Patch:

1. Measurement and payment for Install Permanent Pavement Patch shall be made on the basis of the unit price and shall be per ton per City of Fayetteville Standard Details. This

payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Install Permanent Pavement Patch described in the Contract Documents.

R. Item [A-18] – Install Fence Post/Repair Fence (Black Chain Link):

1. Measurement and payment for Install Fence Post/Repair Fence (Black Chain Link) shall be made on the basis of the unit price and shall be per lump sum per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Install Fence Post/Repair Fence (Black Chain Link) described in the Contract Documents.

S. Item [A-19] – Sod:

1. Measurement and payment for Sod shall be made on the basis of the unit price and shall be per square yard per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Sod described in the Contract Documents.

T. Item [A-20] – Relocate Existing Street Sign:

1. Measurement and payment for Relocate Existing Street Sign shall be made on the basis of the unit price and shall be per each per City of Fayetteville Specifications. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Relocate Existing Street Sign described in the Contract Documents.

U. Item [A-21] – Adjust Water Meter:

1. Measurement and payment for Adjust Water Meter shall be made on the basis of the unit price and shall be per each per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Adjust Water Meter described in the Contract Documents.

V. Item [A-22] – Adjust Cleanout:

1. Measurement and payment for Adjust Cleanout shall be made on the basis of the unit price and shall be per each per City of Fayetteville Standard Details. This payment shall be considered full compensation for all materials, labor, equipment, and incidentals necessary to Adjust Cleanout described in the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 31 00 PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish resources required to complete the Project in accordance with the Contract Documents and within the Contract Times.

B. Construct Project in accordance with current safety practices.

C. Manage Site to allow access to Site and control both construction operations and traffic.

1.02 STANDARDS

A. Perform Work to comply with:

1. Requirements of the Contract Documents;

2. Laws and Regulations; and

3. Specified industry standards.

1.03 DOCUMENTATION

A. Provide documents and permits in accordance with Section 01 33 00 "Document Management."

B. Provide copies of Supplier's printed storage instructions prior to furnishing materials or products and installation instructions prior to beginning the installation.

C. Incorporate field notes, sketches, recordings, and computations made by the Contractor in Record Drawings per Section 01 31 13 "Project Coordination."

D. Prepare a Plan of Action per Section 01 31 13 "Project Coordination" for Utility work if required.

E. Provide a project-specific Site Safety Program.

F. Provide the City of Fayetteville Traffic Engineer with a Traffic Control Plan within fourteen (14) days of being declared the lowest responsible bidder. See "Traffic Control" Section 00497 for further information.

1.04 PERMITS

A. Obtain permits for the Project from the local authorities having jurisdiction. Contractor shall pay all permit fees and include these costs in the Contract Price.

B. Verify and obtain copies of North Carolina Division of Environmental Quality ("NCDEQ") environmental permits required for construction at the Site from the Engineer.

C. Apply and obtain a Truck Route Permit from the City of Fayetteville.

D. Apply and obtain a Temporary Use Permit from the City of Fayetteville.

E. Apply and obtain approval for any intended street closures at least five (5) working days in advance. See "Traffic Control" Section 00497.

F. Provide other permits required to conduct any part of the Work. The Contractor shall procure and bear the costs of all permits, licenses, fees, and inspections, and give all notices necessary and incidental to the due and lawful prosecution of the work.

G. Arrange for inspections and certification by agencies having jurisdiction over the Work and include the cost for these inspections and certifications in the Contract Price.

H. Make arrangements with private utility companies and pay fees associated with obtaining services or inspections.

I. Retain copies of permits and licenses at the Site and comply with all regulations and conditions of the permit or license.

1.05 SAFETY REQUIREMENTS

A. Contractor shall submit a project-specific Site Safety Program. Corporate Safety handbooks or programs are not acceptable.

B. Manage safety to protect the safety and welfare of persons at the Site.

C. Provide safe access to move through the Site. Provide protective devices to warn and protect from hazards at the Site.

D. Provide safe access for those performing tests and inspections.

E. Maintain a supply of personal protective equipment for visitors to the Site.

F. Comply with latest provisions of the Occupational Health and Safety Administration ("OSHA") and other Laws and Regulations.

G. Cooperate with accident investigations. Provide two copies of all reports, including insurance company reports, prepared concerning accidents, injuries, or deaths related to the Project to the Engineer as Record Data per Section 01 31 13 "Project Coordination."

H. Secure the area and contact the City of Fayetteville Public Services Department (910) 433-1656 if any materials considered or suspected of being hazardous are encountered.

I. Fire hydrants on or adjacent to the street shall be kept accessible to fire apparatus at all times.

J. If the Engineer, or City of Fayetteville shall stop the prosecution of the work at any time because of life safety issues, such stoppage shall not relieve the Contractor of his responsibility under this paragraph.

K. The Contractor shall adhere to all applicable regulations and follow accepted safety procedures when working in the vicinity of utilities in order to ensure the safety of construction personnel and the public.

1.06 ACCESS TO THE SITE

A. Maintain access to the facilities at all times.

1. Do not obstruct roads, pedestrian walks, or access to the various buildings, structures, stairways, or entrances. Contractor shall also, at their expense, construct and maintain any necessary ramps, boardwalks, or other means to maintain pedestrian traffic.

2. Provide safe access for vehicle and pedestrian access (which may include temporary bridges and their maintenance) to all properties, both public and private and conduct operations in such a manner that inconvenience to the property owners will be held to a minimum.

3. Provide safe access for normal operations during construction. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists unless approved.

4. The Contractor shall so schedule their work as to keep all storefronts open to their prospective customers.

5. Contractor shall at all times cooperate with the public and merchants affected by their operations and shall endeavor to maintain good public relations at all times.

6. Any lighting or other special facilities required to carry on work shall be furnished by the Contractor.

B. Provide adequate and safe access for inspections. Leave ladders, bridges, scaffolding, and protective equipment in place until inspections have been completed. Construct additional safe access if required for inspections.

C. Use roadways for construction traffic only with written approval of the City of Fayetteville.

1. A Traffic Control Plan is required within fourteen (14) days of being declared the lowest responsible bidder. See “Traffic Control” Section 00497 for further.

2. Contractor shall comply with the City of Fayetteville’s Truck Route Ordinance. The Contractor shall make a thorough examination of the individual streets and establish all haul routes to comply with the Truck Route Ordinance.

3. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists unless otherwise approved in writing by the City of Fayetteville.

4. Furnish copies of all written approvals to the Engineer as Record Data per Section 01 31 13 “Project Coordination.”

1.07 CONTRACTOR’S USE OF THE SITE

A. Limit the use of Site for Work and storage to those areas designated on the Drawings or approved by the Engineer. Coordinate the use of the Site with the Engineer.

B. Provide security at the Site as necessary to protect against vandalism and loss by theft.

C. Park construction equipment in designated areas only and provide spill control measures as discussed in Section 01 57 00 “Temporary Controls.”

D. Park employees’ vehicles in designated areas only.

E. Obtain written permission of the property owner before entering privately-owned land outside of the Owner’s property, rights-of-way, or easements.

F. The Contractor(s) shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

G. Cooperate with public and private agencies with facilities operating within the limits of the Project. Contractor shall use 811 to provide notice to any applicable agency when Work is anticipated to proceed in the vicinity of any facility.

H. Conduct of Contractor's or Subcontractor's Employees:

1. Do not permit alcoholic beverages or illegal substances on the Site. Do not allow persons under the influence of alcoholic beverages or illegal substances to enter or remain on the Site at any time. Persons on Site under the influence of alcoholic beverages or illegal substances will be permanently prohibited from returning to the Site. Criminal or civil penalties may also apply.

2. Do not allow the use of offensive language or sexual harassment in any form. These actions will cause immediate and permanent removal of the offender from the premises. Criminal or civil penalties may apply.

3. Require workers to wear clothing that is inoffensive and meets safety requirements. Do not allow sleeveless shirts, shorts, or any exceedingly torn, ripped, or soiled clothing to be worn on the Site.

4. Do not allow the use, possession, concealment, transportation, promotion, or sale of the following prohibited items anywhere on the Site:

a. Firearms (including air rifles and pistols and BB or pellet guns) and ammunition;

b. Bows, crossbows, arrows, bolts, or any other projectile weapons;

c. Explosives of any kind, including fireworks;

d. Illegal knives;

e. Other weapons prohibited by state Laws and Regulations; and

f. Any other item that has been designed or intended to be used as a weapon.

5. No exceptions will be made for the possession of a firearm by a person that has a valid state-issued license to carry a firearm. Remove any of the prohibited items listed above from the Site immediately and permanently. Any person found to be in possession of any prohibited item must also be removed from the Site and may be reported to local law enforcement.

1.08 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. Examine the Site and review the available information concerning the Site. Locate utilities, underground facilities, and existing structures. Verify the elevations of the structures adjacent to excavations. Contractor has a duty to report any discrepancies from information in the Contract Documents to the Engineer before beginning construction.

B. It shall be the responsibility of the Contractor to contact all affected utility owners and determine the precise location of all utilities prior to beginning construction. Utility owners shall be contacted a **minimum of 48 hours** prior to the commencement of operations.

C. Protect utilities, underground facilities and existing structures unless they are shown to be replaced or relocated on the Drawings.

1. In the event that any utility service is interrupted, the Contractor shall notify the utility owner immediately and shall cooperate with the owner, or his representative, in the restoration of service in the shortest time possible.

2. Restore damaged items to the satisfaction of the City of Fayetteville, the utility, or the property owner.

D. Carefully support and protect all structures and/or utilities so that there will be no failure or settlement where excavation or demolition endangers adjacent structures and utilities. Do not take existing utilities out of service unless required by the Contract Documents or approved by the Engineer.

E. Protect existing trees and landscaping at the Site. Mark trees that may be removed during construction and review with the Engineer for approval before removing. Protect trees to remain from damage limiting activity, including stockpiling of materials within the drip line of the tree.

F. Protect buildings from damage when handling material or equipment. Protect finished surfaces, including floors, doors, and jambs. Remove doors and install temporary wood protective coverings over jambs, if needed.

1.09 DISRUPTION TO SERVICES/CONTINUED OPERATIONS

A. Owner's facilities are to continue in service as usual during the construction unless noted otherwise. Owner or utilities must be able to operate and maintain the facilities. Keep disruptions to existing utilities, piping, process piping, or electrical services to a minimum.

1. Do not restrict access to critical valves, operators, or electrical panels.

2. Do not store material or products inside structures unless authorized by the Engineer.

3. Limit operations to the minimum amount of space needed to complete the specified Work.

4. Maintain storm sewers and sanitary sewers in service at all times. Provide temporary service around the construction or otherwise construct the Work in a manner that flow is not restricted.

B. Provide a Plan of Action in accordance with Section 01 35 00 "Special Procedures" if facilities must be taken out of operation.

1.10 FIELD VERIFICATION

A. Perform complete field measurements prior to purchasing products or beginning construction for products required to fit existing conditions.

B. Verify property lines, control lines, grades, and levels indicated on the Drawings.

C. Verify pipe class, equipment capacities, existing electrical systems, and power sources for existing conditions.

D. Check Shop Drawings and indicate the actual dimensions available where products are to be installed.

E. Include field measurements in Record Documents as required in Section 01 31 13 "Project Coordination."

1.11 CONSTRUCTION STAKING, REFERENCE DATA, AND CONTROL POINTS

A. The City of Fayetteville Public Services Department will do all construction staking.

1. Staking will be done only during normal office hours, Monday through Friday. All stakes knocked out by the Contractor will be replaced by the Public Services Department at a charge to the Contractor of $5 per stake.

2. The Contractor must give at least two days (48 hours) notice prior to requiring staking or re-staking.

3. If control points or benchmarks are damaged, disturbed or destroyed as a result of the Contractor's negligence, then Owner will impose a set-off as compensation for the effort required to reestablish. The Contractor may be charged a minimum of $15 for replacing control points, P.C., etc., and $50 for replacing monuments.

B. Locate and protect control points prior to starting the Work and preserve permanent reference points during construction.

1. Designated control points may be on an existing structure or monument. Do not change or relocate points without prior approval of the Engineer.

2. Notify Engineer when a reference point is lost, destroyed, or requires relocation. Replace Project control points on the basis of the original survey.

1.12 DELIVERY AND STORAGE

A. Deliver products and materials to the Site in time to prevent delays in construction.

B. Deliver packaged products to Site in original undamaged containers with identifying labels attached. Open cartons as necessary to check for damage and to verify invoices. Reseal cartons and store properly until used. Leave products in original packages or other containers until installed. If original packages or containers are damaged, repackage in containers and include packing slips, labels and other information from the original packaging.

C. Deliver products that are too large to fit through openings to the Site in advance of the time enclosing walls and roofs are erected. Set in place, raised above floor on cribs or pallets.

D. Assume full responsibility for the protection and safekeeping of products stored at the Site.

E. Store products at locations acceptable to the Engineer and to allow Owner access to maintain and operate existing facilities.

F. Store products in accordance with the Supplier's storage instructions immediately upon delivery. Leave seals and labels intact. Arrange storage to allow access for maintenance of stored items and for inspection. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

G. Provide additional storage areas as needed for construction. Store products subject to damage by elements in substantial weather-tight enclosures or storage sheds. Provide and maintain storage sheds as required for the protection of products. Provide temperature, humidity control, and ventilation within the ranges stated in the Supplier's instructions. Remove storage facilities at the completion of the Project.

H. Protect the pipe interior. Keep all foreign materials such as dirt, debris, animals, or other objects out of the pipe during the Work.

I. Provide adequate exterior storage for products that may be stored out-of-doors.

1. Provide substantial platforms, blocking, or skids to support materials and products above ground which has been sloped to provide drainage. Protect products from soiling or staining.

2. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet materials. Provide ventilation to prevent condensation below covering.

3. Store loose, granular materials on clean, solid surfaces, or on rigid sheet materials, to prevent mixing with foreign matter.

4. Provide surface drainage to prevent erosion and ponding of water.

5. Prevent mixing of refuse or chemically injurious materials or liquids with stored materials.

6. Pipes and conduits stored outdoors are to have open ends sealed to prevent the entrance of dirt, moisture, and other injurious materials. Protect PVC pipe from ultraviolet light exposure.

7. Store products to prevent wind damage.

J. Protect and maintain mechanical and electrical equipment in storage.

1. Provide Supplier's service instructions on the exterior of the package.

2. Service equipment on a regular basis as recommended by the Supplier. Maintain a log of maintenance services. Submit the log as Record Data per Section 01 31 13 "Project Coordination" when Owner assumes responsibility for maintenance and operation.

3. Provide power to and energize space heaters for all equipment for which these devices are provided.

4. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.

K. Maintain storage facilities. Inspect stored products on a weekly basis and after periods of severe weather to verify that:

1. Storage facilities continue to meet specified requirements;

2. Supplier's required environmental conditions are continually maintained; and

3. Products that can be damaged by exposure to the elements are not adversely affected.

L. Replace any stored item damaged by inadequate protection or environmental controls.

M. Payment may be withheld for any products not properly stored.

1.13 CLEANING DURING CONSTRUCTION

A. Provide positive methods to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from disbursing into the atmosphere. Control dust and dirt from demolition, cutting, and patching operations.

B. Clean the Site as Work progresses and dispose of waste materials, keeping the Site free from accumulations of waste or rubbish. Provide containers at the Site for waste collection. Do not allow waste materials or debris to blow around or off of the Site. Control dust from waste materials. Transport waste materials with as few handlings as possible.

C. Comply with Laws and Regulations. Do not burn or bury waste materials. Remove waste materials, rubbish, and debris from the Site and legally dispose of these at public or private disposal facilities.

1.14 MAINTENANCE OF ROADS, DRIVEWAYS, AND ACCESS

A. Maintain roads and streets in a manner that is suitable for safe operations of public vehicle during all phases of construction unless the City of Fayetteville approves a street closing. See "Traffic Control" Section 00497 for further.

B. Approval is required for any intended street closures at least five (5) working days in advance. See "Traffic Control" Section 00497.

1. Submit a Street Closure Request, in writing, to the City of Fayetteville Traffic Engineer. The request must state the elements outlined in "Traffic Control" Section 00497, Part 3.01(A).

2. No work shall begin until all the traffic devices required for the particular work activity have been installed, inspected, and approved by the City of Fayetteville Traffic Engineer or their representative.

C. Do not close public roads overnight without written permission from the City of Fayetteville Traffic Engineer. Coordinate and arrange for emergency vehicle access when streets are to be closed.

D. If the roads are not within the jurisdiction of the City of Fayetteville, obtain permits and permissions of the entity that owns the road prior to any Work and provide a copy of the permit or permission Record Data per Section 01 31 13 "Project Coordination."

E. Contractor assumes responsibility for any and all damage resulting from construction along roads or drives.

F. Comply with all Erosion and Sedimentation Control plans. Clean off sediment transported onto roadways within the project site and public roads at the end of each day. Sediment shall be removed by shoveling or sweeping and be transported to a controlled disposal area. Street washing shall be allowed *after* sediment is removed in this manner. See Section 01 57 23 "NC Erosion and Sedimentation Control" for further.

G. The Contractor shall control dust throughout the life of the project in all areas within and affected by the construction, including but not limited to unpaved secondary roads, haul roads, access roads, disposal sites, borrow and material sources and production sites. Dust control shall not be considered effective where the amount of dust creates a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Dust control shall be incidental to the work and no additional compensation will be made.

1.15 BLASTING

A. Blasting is not allowed for any purpose.

1.16 ARCHAEOLOGICAL REQUIREMENTS

A. Cease operations immediately and contact the Owner for instructions if historical or archaeological artifacts are found during construction.

B. Conduct all construction activities to avoid adverse impact of the sites where significant historical or archaeological artifacts are found or identified as an area where other artifacts could be found.

1. Obtain details for working in these areas from regulatory agencies.

2. Maintain confidentiality regarding the site(s) of artifacts.

3. Adhere to the requirements of applicable local, state, and federal Laws and Regulations.

4. Notify the City of Fayetteville, the Engineer and any local, state, or federal agency as required by applicable Laws and Regulations.

C. Do not disturb archaeological sites.

1. Obtain the services of a qualified archaeological specialist to instruct construction personnel on how to identify and protect archaeological finds on an emergency basis.

2. Coordinate activities to permit archaeological work to take place within the area.

a. Attempt to archaeologically clear areas needed for construction as soon as possible.

b. Provide a determination of priority for such areas.

D. Assume responsibility for any unauthorized destruction that might result to such sites by construction personnel, and pay all penalties assessed by state or federal agencies for non-compliance with these requirements.

E. Contract Times will be modified to compensate for delays caused by such archaeological finds. No additional compensation will be paid for delays.

1.17 ENDANGERED SPECIES RESOURCES

A. Do not perform any activity that is likely to destroy or adversely modify the habitat or jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (“ESA”) or applicable North Carolina Laws and Regulations.

B. Cease Work immediately in the area of the encounter and notify the Engineer if a threatened or endangered species is encountered during construction. Engineer will implement actions in accordance with the ESA and applicable North Carolina statutes. Only resume construction in the area of the encounter when authorized to do so by the Engineer.

C. Contract Times will be modified to compensate for delays caused by such encounters. No additional compensation will be paid for delays.

1.18 BUILDING COORDINATION

A. Coordinate the efforts of various trades having interdependent responsibilities for Work.

B. Conceal ducts, pipes, wiring, and other non-finish items in finished areas, except as otherwise shown. Coordinate locations of concealed items with finish elements. Install access panel or doors where units requiring access for maintenance or operation are concealed behind finished surfaces.

C. Coordinate architectural reflected ceiling plans with the exact location of items installed in suspended ceilings. Request clarification from the Engineer prior to proceeding with fabrication or installation of an item if it appears that a conflict exists.

D. Coordinate the installation of items to be installed later, including:

1. Accepted alternates.
2. Products purchased using allowances.
3. Work by others.
4. Owner-supplied, Contractor-installed items.

E. Sequence, coordinate, and integrate the various elements of mechanical, electrical, and other systems, materials, and equipment. Comply with the following requirements:

1. Coordinate mechanical and electrical systems, equipment, and materials installation with other building components.
2. Verify all dimensions by field measurements.
3. Arrange for chases, slots, and openings in other building components during progress of construction.
4. Coordinate the installation of required supporting devices, sleeves, embedded items, and other structural components to be set in concrete before concrete is placed.
5. Install systems, materials, and equipment to provide the maximum headroom possible where mounting heights are not detailed or dimensioned.
6. Coordinate the connection of systems with exterior underground and overhead utilities and services. Comply with the Laws and Regulations and requirements of franchise service companies. Provide required connection for each service.
7. Install systems, materials, and equipment to conform with approved Shop Drawings, Product Data, and Operation and Maintenance Data. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Adjust routing of piping, ductwork, utilities, and location of equipment as needed to resolve spatial conflicts between the various trades. Document changes in the indicated routings in the Record Documents per Section 01 31 13 “Project Coordination.”
8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components.
9. Install systems, materials, and equipment to facilitate servicing, maintenance, and repair or replacement of components.
10. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified slope.

1.19 BUILDING CUTTING AND PATCHING

A. Perform cutting, fitting, and patching required to complete the Work or to:

1. Uncover Work to provide for installation of new Work or the correction of Defective Work.

2. Provide routine penetrations of non-structural surfaces for installation of mechanical, electrical, and plumbing Work.

3. Uncover Work that has been covered prior to observation by the Engineer.

B. Submit Notification by Contractor in accordance with Section 01 31 13 "Project Coordination" to the Engineer in advance of performing any cutting which affects:

1. Work of any other contractor or the Owner;

2. Structural integrity of any structure or system of the Project;

3. Integrity or effectiveness of weather exposed or moisture resistant structure or systems;

4. Efficiency, operational life, maintenance, or safety of any structure or system; or

5. Appearance of any structure or surfaces exposed occasionally or constantly to view.

C. Include in request:

1. Location and description of affected Work;

2. Reason for cutting, alteration, or excavation;

3. Effect on the Work of any separate contractor or Owner;

4. Effect on the structural or weatherproof integrity of the Work;

5. Description of proposed Work, including:

a. Scope of cutting, patching, or alteration;

b. Trades that will perform the Work;

c. Products proposed for use; and

d. Extent of refinishing to be performed.

6. Alternatives to cutting and patching;

7. Written authorization from any separate Contractor whose Work would be affected; and

8. Date and time Work will be uncovered or altered.

D. Inspect existing conditions prior to starting the Work, including elements subject to damage or movement during cutting and patching. Uncover elements where required for an adequate inspection. Notify the Engineer of any conditions that negatively impact the ability to perform cutting and patching. Contractor is deemed to have accepted the existing conditions and assumed the risk associated with completing the Work when cutting or patching is started after the inspection.

E. Provide adequate support to maintain the structural integrity of facilities, structures, or elements that could be affected by cutting, patching or installing new Work. Provide devices and methods to protect facilities, structures, or elements from damage that could be affected by Contractor's efforts. Provide protection from the weather for portions of the Project that may be exposed by cutting and patching.

F. Make cuts or penetrations using methods that prevent damage to other Work and provide proper surfaces for patching and repairs.

G. Fit and adjust installed products to comply with specified products, functions, tolerances, and finishes.

H. Patch or repair facilities, structures or elements to provide completed Work per the Contract Documents.

I. Fit Work air-tight to pipes, sleeves, ducts, conduit, and other penetrations through the surfaces. Where fire rated separations are penetrated, fill the space around the pipe with materials with physical characteristics equivalent to fire resistance requirements of penetrated surface. Provide firestop inserts inside pipes, sleeves, ducts, conduit, and other penetrations when required by fire resistance requirements.

J. Patch finished surfaces and building components using new products specified for the original installation. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:

   1. For continuous surfaces, refinish to the nearest intersection.

   2. For an assembly, refinish the entire unit.

1.20 BUILDING PRELIMINARY OCCUPANCY

A. Owner may deliver, install, and connect equipment, furnishings, or other apparatus in buildings or other structures. These actions do not indicate acceptance of any part of the building or structure and does not affect the start of warranties or correction periods.

B. Protect the Owner's property after installation is complete.

C. Owner may use any product for testing or to determine that the product meets the requirements of the Contract Documents. This use does not constitute acceptance by Owner. These actions do not indicate acceptance of any part of the product and does not affect the start of warranties or correction periods.

1.21 OCCUPANCY

A. Owner has the right to occupy or operate any portion of the Project that is ready for use after notifying the Contractor of its intent to do so.

B. Testing of equipment and appurtenances including specified test periods, training, and startup does not constitute acceptance for operation.

C. Owner may accept the facility for continued use after startup and testing at the option of the Owner. If acceptance is delayed at the option of the Owner, shut down facilities per approved operation and maintenance procedures.

D. The execution of bonds is understood to indicate the consent of the surety to these provisions for occupancy of the structures and use of equipment.

E. Provide an endorsement from the insurance carrier permitting occupancy of the structures and use of equipment during the remaining period of construction.

F. Conduct operations to ensure the least inconvenience to the Owner and general public.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 31 13 PROJECT COORDINATION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Administer contract requirements to construct the Project. Provide documentation per the requirements of this Section. Provide information as requested by the Owner.

1.02 DOCUMENTATION

A. Provide documents in accordance with Section 01 33 00 “Document Management.”

1.03 COMMUNICATION DURING THE PROJECT

A. Engineer is to be the first point of contact for all parties on matters concerning this Project.

B. Engineer will coordinate correspondence concerning:

1. Contract administration;
2. Clarification and interpretation of the Contract Documents;
3. Contract modifications;
4. Observation of Work and testing; and
5. Claims.

C. Engineer will normally communicate only with the Contractor. Any required communication with Subcontractors or Suppliers will only be with the direct involvement of the Contractor.

D. Direct written communications to the Engineer at the address indicated at the pre-construction conference. Include the following with communications as a minimum:

1. Name of the Owner
2. Project name
3. Contract title
4. Project number
5. Date
6. A reference statement

E. Submit communications on the forms referenced in this Section or in Section 01 33 00 “Document Management.”

1.04 PROJECT MEETINGS

A. Pre-Construction Conference:

1. Attend a pre-construction conference.
2. The location of the conference will be determined by the Engineer.

3. The time of the conference will be determined by the Engineer, but will be after the Notice of Award is issued and not later than 15 days after the Notice to Proceed is issued.
4. The Owner, Contractor's project manager and superintendent, representatives of utility companies, and representatives from major Subcontractors and Suppliers may attend the conference.
5. Provide and be prepared to discuss the following:
    a. Preliminary construction schedule per Section 01 33 05 "Construction Progress Schedule"
    b. Preliminary Schedule of Documents per Section 01 33 00 "Document Management"
    c. Schedule of Values and anticipated schedule of payments per Section 01 29 00 "Application for Payment Procedures"
    d. List of Subcontractors and Suppliers
    e. Contractor's organizational chart as it relates to this Project
    f. Letter indicating the agents of authority for the Contractor and the limit of that authority with respect to the execution of legal documents, contract modifications, and payment requests

B. Progress Meetings:
1. Attend meetings with the Engineer, and Owner.
    a. Meet monthly or as requested by the Engineer to discuss the Project.
    b. Meet at the Site or other location as designated by the Engineer.
    c. Contractor's superintendent and other key personnel are to attend the meeting. Other individuals may be requested to attend to discuss specific matters.
    d. Notify the Engineer of any specific items to be discussed a minimum of 1 week prior to the meeting.
2. Provide information as requested by the Engineer and Owner concerning this Project. Prepare to discuss the following:
    a. Status of overall project schedule
    b. Contractor's detailed schedule for the next month
    c. Anticipated delivery dates for equipment
    d. Coordination with the Owner
    e. Status of documents
    f. Information or clarification of the Contract Documents
    g. Claims and proposed modifications to the Contract
    h. Field observations, problems, or conflicts
    i. Maintenance of quality standards

3. Engineer will prepare a record of meeting proceedings. Review the record of the meeting and notify the Engineer of any discrepancies within 10 days of the date the record of the meeting is provided. The record will not be corrected after the 10 days have expired. Corrections will be reflected in the record of the following meeting.

C. Pre-Documentation and Pre-Installation Meetings:

1. Conduct pre-documentation and pre-installation meetings as required in the individual technical Specifications or as determined necessary by the Engineer (for example, instrumentation, roofing, concrete mix design, etc.).

2. Set the time and location of the meetings when ready to proceed with the associated Work. Submit a Notification by Contractor in accordance with Paragraph **[1.07]** for the meeting 2 weeks before the meeting. Owner must approve of the proposed time and location.

3. Attend the meeting and require the participation of appropriate Subcontractors and Suppliers in the meeting.

4. Engineer will prepare a record of meeting proceedings. Review the record of the meeting and notify the Engineer of any discrepancies within 10 days of the date the record of the meeting is provided. The record will not be corrected after the 10 days have expired. Corrections will be reflected in the record of the following meeting.

D. Weekly Coordination Meetings: Meet on a weekly basis with the Engineer or designated on-site representative of the Owner to discuss Work planned for the following week, review coordination issues, testing required, or other issues. Records of these meetings are not required.

1.05 REQUESTS FOR INFORMATION

A. Submit a Request for Information to the Engineer to obtain additional information or clarification of the Contract Documents.

1. Submit a separate Request for Information for each item on the form provided by the Engineer.

2. Attach adequate information to permit a response without further clarification. Engineer will return requests that do not have adequate information to the Contractor for additional information. Contractor is responsible for all delays resulting from multiple reviews due to inadequate information.

3. A response will be made when adequate information is provided. The response will be made on the Request for Information form provided by the Engineer.

4. A response will be made to an adequate Request for Information within 5 days from receipt.

B. Response to a Request for Information is given to provide additional information, interpretation, or clarification of the requirements of the Contract Documents, and does not modify the Contract Documents.

1. Submit a Change Proposal per Section 01 26 00 “Change Management” if a contract modification is suggested or required.

C. Use the Decision Register to document decisions made at meetings and actions to be taken in accordance with Paragraph **[1.06]**.

D. Use the Action Item Register to document assignments for actions to be taken in accordance with Paragraph **[1.06]**.

1.06 DECISION AND ACTION ITEM REGISTER

A. Engineer will maintain a Decision Register to document key decisions made during meetings, telephone conversations, or visits to the Site using the format provided by the Engineer:

1. Review the Decision Register prior to each regular meeting.

2. Report any discrepancies to the Engineer for correction or discussion at the next monthly meeting.

B. Engineer will maintain an Action Item Register in conjunction with the Decision Register to track assignments made during meetings, telephone conversations or visits to the Site using the format provided by the Engineer:

1. Review the Action Item Register prior to each regular meeting.

2. Report actions taken after the previous progress meeting on items in the register assigned to the Contractor or through the Contractor to a Subcontractor or Supplier to the Engineer. Report on status of progress 1 week prior to each progress meeting established in Paragraph **[1.04]** to allow Engineer to update the register prior to the Progress Meetings.

3. Be prepared to discuss the status at each meeting.

C. Decisions or action items in the register that require a change in the Contract Documents will have the preparation of a Modification as an action items if appropriate. The Contract Documents can only be changed by a Modification.

1.07 NOTIFICATION BY CONTRACTOR

A. Notify the Engineer of any of the following:

1. Need for testing (48 hours' notice)

2. Intent to work outside regular working hours (72 hours' notice)

3. Request to shut down facilities or utilities (2 weeks' notice)

4. Proposed utility connections (2 weeks' notice)

5. Required observation by Engineer, or inspection agencies prior to covering Work (72 hours' notice)

6. Training (1 weeks' notice)

B. Provide notification in advance as indicated above to allow Owner time to respond appropriately to the notification.

C. Use the Notification by Contractor form provided by the Engineer.

1.08 REQUESTS FOR MODIFICATIONS

A. Submit requests for Modifications per Section 01 26 00 “Change Management.”

1.09 RECORD DATA

A. Submit information required by the Contract Documents that is not related to a product as Record Data using the form provided by the Engineer.

1.10 RECORD DOCUMENTS

A. Maintain one complete set of printed Record Documents at the Site including the following:
   1. Drawings
   2. Specifications
   3. Addenda
   4. Modifications
   5. Product Data and approved Shop Drawings
   6. Construction photographs
   7. Test Reports
   8. Clarifications and other information provided in Request for Information responses
   9. Reference standards

B. Store printed Record Documents and Samples in the Contractor’s field office.
   1. Record Documents are to remain separate from documents used for construction.
   2. Provide files and racks for the storage of Record Documents.
   3. Provide a secure storage space for the storage of Samples.
   4. Maintain Record Documents in clean, dry, legible conditions, and in good order.
   5. Make Record Documents and Samples available at all times for inspection by the Owner.

C. Maintain an electronic record of Specifications and Addenda to identify products provided in PDF format.
   1. Reference the Product Data number, Shop Drawing number, and O&M manual number for each product and item of equipment furnished or installed.
   2. Reference Modifications by type and number for all changes.

D. Maintain an electronic record of Drawings in PDF format.
   1. Reference the Product Data number, Shop Drawing number, and O&M manual number for each product and item of equipment furnished or installed.
   2. Reference Modifications by type and number for all changes.
   3. Record information as construction is being performed. Do not conceal any Work until the required information is recorded.
   4. Mark drawings to record actual construction.

a. Depths of various elements of the foundation in relation to finished first floor datum or the top of walls.

b. Horizontal and vertical locations of underground utilities and appurtenances constructed, and existing utilities encountered during construction.

c. Location of utilities and appurtenances concealed in the Work. Refer measurements to permanent structures on the surface. Include the following equipment:

1) Piping

2) Ductwork

3) Equipment and control devices requiring periodic maintenance or repair

4) Valves, unions, traps, and tanks

5) Services entrance

6) Feeders

7) Outlets

d. Changes of dimension and detail.

e. Changes by Modifications.

f. Information in Requests for Information or included in the Decision Register.

g. Details not on the original Drawings. Include field verified dimensions and clarifications, interpretations, and additional information issued in response to Requests for Information.

5. Mark Drawings with the following colors:

a. Highlight references to other documents, including Modifications in blue.

b. Highlight mark ups for new or revised Work (lines added) in yellow.

c. Highlight items deleted or not installed (lines to be removed) in red.

d. Highlight items constructed per the Contract Documents in green.

6. Submit Record Documents to Engineer for review and acceptance 30 days prior to Final Completion of the Project.

E. Applications for Payment will not be recommended for payment if Record Documents are found to be incomplete or not in order. Final payment will not be recommended without complete Record Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 00 DOCUMENT MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Submit documentation as required by the Contract Documents and as requested by the Engineer.

B. Submit all documentation via email to the following address: JeffreyRiddle@FayettevilleNC.gov

1.02 CONTRACTOR'S RESPONSIBILITIES

A. Review documents prior to submission. Make certifications as required by the Contract Documents and as indicated on provided forms.

B. Provide a Schedule of Documents to list the documents that are to be submitted, the dates on which documents are to be sent to the Engineer for review. Use the form provided by the Engineer for this list.

C. Incorporate the dates for processing documents into the Progress Schedule required by Section 01 33 05 "Construction Progress Schedule."

1. Provide documents in accordance with the schedule so construction of the Project is not delayed.

2. Allow a reasonable time for the review of documents when preparing the Progress Schedule. Assume a fourteen (14) day review cycle for each document unless a longer period of time is indicated in the Contract Documents or agreed to by Engineer and Contractor.

3. Schedule delivery of review documents to provide all information for interrelated Work at one time.

4. Allow adequate time for processing documents so construction of the Project is not delayed.

1.03 FORMS AND WORKFLOWS

A. Use the forms or workflow process provided by the Engineer for project documentation.

1.04 DOCUMENT PREPARATION AND DELIVERY PROCEDURES

A. Deliver documents in electronic format as directed by the Engineer.

1. Do not leave any blanks incomplete. If information is not applicable, enter NA in the space provided.

2. Deliver all documents in Portable Document Format (PDF).

a. Create PDF documents from native format files unless files are only available from scanned documents.

b. Rotate pages so that the top of each document appears at the top of the monitor screen when opened in PDF viewing software.

c. Provide PDF document with adequate resolution to allow documents to be printed in a format equivalent to the document original. Documents are to be scalable to allow printing on standard 8-1/2 x 11 or 11 x 17 paper.

d. Submit color PDF documents where color is required to interpret the document.

e. Create or convert documents to allow text to be selected for comments or searched using text search features. Run scanned documents through Optical Character Recognition (OCR) software if necessary.

f. Flatten markups in documents to prevent markups made by Contractor from being moved or deleted. Flatten documents to allow markup recovery.

g. Add footers to each document with the name of the Project.

B. Software Requirements:

1. Owner and Contractor will each acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the following software formats:

Document	Document Format
Email	.htm, .rtf, or .txt without formatting that impairs legibility of content on screen or in printed copies
Submittals	Bluebeam or Adobe PDF
Applications for Payment	Bluebeam or Adobe PDF and Microsoft® Excel
Progress Schedules	PDF and Schedule in Native Format
Layouts and drawings to be submitted to Owner for future use and modification.	Autodesk® AutoCAD .dwg format
Document submitted to Owner for future word processing use and modification.	Microsoft® Word
Spreadsheets and data submitted to Owner for future data processing use and modification.	Microsoft® Excel

2. Software will be the version currently published at the time Contract is signed, unless a specific software version in listed in the Supplementary Conditions. Prior to using any updated version of the software required in this Section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or convert to comply with this Paragraph.

1.05 DOCUMENT NUMBERING

A. Assign a document number to the Contractor originated document to allow tracking of the document during the review process.

1. Assign the number consisting of a prefix, a sequence number, and a letter suffix. Prefixes will be as follows:

Prefix	Description
AP	Application for Payment
CP	Change Proposal
CTR	Certified Test Report
EIR	Equipment Installation Report
GD	Graphic Documentation
NBC	Notification by Contractor
O&M	Operation and Maintenance Manuals
PD	Product Data
RD	Record Data
RFI	Request for Information
SD	Shop Drawing
SCH	Schedule of Progress

2. Issue sequence numbers in chronological order for each type of document as directed by the Engineer.

3. Issue numbers for resubmittals that have the same number as the original document followed by an alphabetical suffix indicating the number of times the same document has been sent to the Engineer for processing. For example: SD-025 A represents Shop Drawing number 25 and the letter "A" designates this is the second time this document has been sent for review.

4. Clearly note the document number on each page or sheet of the document.

5. Correct assignment of numbers is essential since different document types are processed in different ways.

B. Include reference to the Drawing number and/or Specification Section, detail designation, schedule, or location that corresponds with the data submitted on the Document Transmittal form. Other identification may also be required, such as layout drawings or schedules to allow the reviewer to determine where a particular product is to be used.

1.06 DOCUMENTATION

A. Furnish documents as indicated in Section 01 33 01 "Document Register" or in the individual Specification Sections. Submit documents per the procedures described in the Contract Documents.

B. Submit documents per the Specification Sections shown in the following table:

Document Type	Specification Section
Application for Payment	01 29 00
Certified Test Report	01 33 02 for approval of product 01 40 00 to demonstrate compliance
Change Management	01 26 00
Graphic Documentation	01 33 06
Notification by Contractor	01 31 13

Document Type	Specification Section
Operation & Maintenance Manuals	01 33 04
Product Data	01 33 03
Progress Schedules	01 33 05
Record Data	01 31 13
Request for Information	01 31 13
Schedule of Values	01 29 00
Shop Drawing	01 33 02
Substitutions	01 26 00
Suppliers and Subcontractors	01 31 13 01 33 03

1.07 Electronic Documents Protocol

A. The parties shall follow the provisions in this Section, referred to as the Electronic Documents Protocol ("EDP"), for exchange of electronic transmittals.

B. Basic Requirements:

1. Except as otherwise stated elsewhere in the Contract Documents, the Owner and Contractor will send and accept Electronic Documents sent by Electronic Means using the protocols provided in this Section.

2. The contents of the information in any Electronic Document will be the responsibility of the transmitting party. Electronic Documents may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, and are subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.

3. Provisions of this Contract regarding Electronic Documents must be incorporated into other agreements or subcontracts on the Project. Nothing in this paragraph reduces or eliminates requirements:

a. to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations;

b. to comply with any applicable Law or Regulation governing the signing and sealing of design documents and related Modifications or the signing and electronic transmission of any other documents; or

c. to comply with the notice requirements.

4. When sending Electronic Documents by Electronic Means the sending 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 sending Electronic Documents.

C. System Infrastructure for Electronic Document Exchange:

1. Contractor will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost. System Infrastructure must comply with these requirements.

2. The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 100 MB. Attachments larger than that may be exchanged in parts or by using large file transfer functions or physical media.

3. Contractor assumes full and complete responsibility for its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software.

4. Contractor is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

5. Contractor will operate and maintain industry-standard, industry-accepted, ISO standard, commercial-grade security software and systems that are intended to protect others from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. Contractor will not be liable to others for any breach of system security to the extent that Contractor maintains and operates required security software and systems.

6. In the case of disputes, conflicts, or modifications to the use of Electronic Documents required to address issues affecting System Infrastructure, Contractor and Owner will cooperatively resolve the issues; but, failing resolution, Owner is authorized to make and require reasonable and necessary changes meet its original intent. Contractor may submit a Change Proposal if the changes cause additional cost or time to Contractor that could not have reasonably been anticipated.

7. Contractor and Owner are both responsible for their own back-up and archive of documents sent and received during the term of the contract. Contractor and Owner remain solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract as each party deems necessary for its own purposes.

8. If a Contractor or Owner receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.

9. Owner will operate a project information management system (Project Website) for use of Owner and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this Contract, use of the Project Website will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information.

D. Software Requirements:

1. Owner and Contractor will each acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the following software formats:

Document	Document Format
Email	.htm, .rtf, or .txt without formatting that impair legibility of content on screen or in printed copies
Submittals	Bluebeam or Adobe PDF
Applications for Payment	Bluebeam or Adobe PDF and Microsoft® Excel
Progress Schedules	PDF and Schedule in Schedule in Native Format
Layouts and drawings to be submitted to Owner for future use and modification	Autodesk® AutoCAD .dwg format
Document submitted to Owner for future word processing use and modification	Microsoft® Word
Spreadsheets and data submitted to Owner for future data processing use and modification	Microsoft® Excel

2. Software will be the version currently published at the time Contract is signed, unless a specific software version in listed in the Supplementary Conditions. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or convert to comply with this Section.

3. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.

E. Requests by Contractor for Electronic Documents in Other Formats:

1. Release of any Electronic Documents developed during the design process (including Contract Documents, Technical Data, Drawings, and computer models) in formats other than those identified in this Section will be at the discretion of the Owner.

2. To the extent determined by Owner, release of Electronic Documents and other project information requested by Contractor (“Request”) in formats other than those identified in this Section will be subject to the provisions of Owner’s response to the Request, and to the following conditions:

a. The content included in the Electronic Documents covered by the Request was prepared by Engineer as an internal working document or electronic computer model solely for Engineer’s purposes and not for any construction processes, and

is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the Request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and Contractor waives any claims against the Engineer or Owner arising from use of data in Electronic Documents covered by the Request.

c. **CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND ENGINEER AND THEIR SUBCONSULTANTS FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES, INCLUDING ATTORNEYS' FEES AND DEFENSE COSTS ARISING OUT OF OR RESULTING FROM THE CONTRACTOR'S USE, ADAPTATION, OR DISTRIBUTION OF ANY ELECTRONIC DOCUMENTS PROVIDED UNDER THE REQUEST.**

d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to the Contractor's subcontractors. Contractor warrants that subsequent use by the Contractor's subcontractors complies with all terms of the Contract Documents and the Owner's response to Request.

3. In the event that Owner elects to provide or directs Engineer to provide to Contractor any Contractor-requested Electronic Document versions of project information that is not explicitly identified in the Contract Documents as being available to Contractor, Owner shall be reimbursed by Contractor on an hourly basis for any costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer in accordance with the General Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 03 PRODUCT DATA

PART 1 - GENERAL

1.01 SUMMARY

A. Submit Product Data as required by the Contract Documents and as reasonably requested by the Engineer. Provide Product Data for all products unless a Shop Drawing is required for the same item.

B. Submit Product Data to provide documents that allow the Owner to:

1. Record the products incorporated into the Project;

2. Record detailed information about products regarding their fabrication, installation, commissioning, and testing; and

3. Provide replacement or repair of products at some future date.

C. Contractor's responsibility for full compliance with the Contract Documents is not relieved by the receipt or cursory review of Product Data.

D. Submit a Change Proposal per Section 01 26 00 "Change Management" to request modifications to the Contract Documents, including those for approval of "or equal" products when specifically allowed by the Contract Documents or as a substitution for specified products or procedures. Deviations from the Contract Documents can only be made by an approved Change Order or Field Order.

1.02 QUALITY ASSURANCE

A. Submit legible, accurate, and complete documents presented in a clear, easily understood manner. Product Data not meeting these criteria will not be accepted and must be resubmitted.

1.03 CONTRACTOR'S RESPONSIBILITIES

A. Product Data is required for the following items:

Specification Section	Product Data Description
COF 00455	Concrete Approved NCDOT Class B

B. Complete the following before submitting Product Data:

1. Prepare Product Data and coordinate with Shop Drawings, Samples, Product Data for related products, and with the requirements of the Contract Documents;

2. Determine and verify specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information;

3. Determine and verify the suitability of 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

4. Determine and verify information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

C. Determine and verify:

1. Field measurements, quantities, and dimensions are shown on the Product Data and are accurate;
2. Location of existing structures, utilities, and equipment related to the Product Data have been shown and conflicts between the products, existing structures, utilities, and equipment have been brought to the attention of the Engineer;
3. Conflicts that impact the installation of the products have been brought to the attention of the Engineer;
4. Product Data is complete for its intended purpose; and
5. Conflicts between the Product Data related to the various Subcontractors and Suppliers have been resolved.

D. Review Product Data prior to submitting to the Engineer. Certify that all Product Data has been reviewed by the Contractor and is in strict conformance with the Contract Documents as modified by Addenda, Change Order, Field Order, or Contract Amendment when submitting Product Data.

1.04 DOCUMENTATION

A. Include a complete description of the material or equipment to be furnished, including:

1. Type, dimensions, size, arrangement, model number, and operational parameters of the components;
2. Weights, gauges, materials of construction, external connections, anchors, and supports required;
3. Performance characteristics, capacities, engineering data, motor curves, and other information necessary to allow a complete evaluation of mechanical components;
4. All applicable standards;
5. Fabrication and installation drawings, setting diagrams, manufacturing instructions, templates, patterns, and coordination drawings;
6. Wiring and piping diagrams and related controls;
7. Mix designs for concrete, asphalt, or other materials proportioned for the Project; and
8. Complete and accurate field measurements for products which must fit existing conditions. Indicate on the document that the measurements represent actual dimensions obtained at the Site.

B. Submit information for all components and related equipment required for a complete and operational system in one submittal.

1. Include electrical, mechanical, and other information required to indicate how the various components of the system function together as a system.
2. Provide certifications, warranties, and written guarantees and service contracts with the document package for review when these are required.

1.05 SPECIAL CERTIFICATIONS AND REPORTS

A. Provide all required certifications with the Product Data as specified in the individual Specification Sections:

1. Certified Test Reports (CTR): A report prepared by an approved testing agency giving results of tests performed on products to indicate their compliance with the Specifications. This report is to demonstrate that the product when installed will meet the requirements of the Contract Documents and is part of the Product Data. Field tests may be performed by the Owner to determine that in place materials or products meet the same quality as indicated in the CTR submitted as part of the Product Data.

2. Certification of Local Field Service (CLS): A certified letter stating that field service is available from a factory or supplier approved service organization located within a 300-mile radius of the Site. Include the names, addresses, and telephone numbers of approved service organizations with the certificate.

3. Certification of Adequacy of Design (CAD): A certified letter from the manufacturer of the equipment stating that the equipment has been designed to be structurally stable and to withstand all imposed loads without deformation, failure, or adverse effects to the performance and operational requirements of the unit. The letter must state that mechanical and electrical components have been adequately sized to be fully operational for the conditions specified or normally encountered by the product's intended use.

4. Certification of Applicator/Subcontractor (CSQ): A certified letter stating that the applicator or subcontractor proposed to perform a specified function is duly designated as factory authorized and trained for the application of the specified product.

1.06 WARRANTIES AND GUARANTEES

A. Provide all required warranties, guarantees, and related documents with the Product Data. The effective date of warranties and guarantees will be the date of Substantial Completion.

B. Identify all Extended Warranties which are defined as any guarantee of performance for the product or system beyond the one-year correction period described in the General Conditions. Issue the warranty certificate in the name of the Owner. Provide a warranty bond for extended warranties if required by Specification Sections.

C. Include an additional copy of equipment warranties in operation and maintenance manuals.

D. Provide a copy of all warranties in a separate document in accordance with Section 01 70 00 "Execution and Closeout Requirements."

1.07 EXTENDED SERVICE AGREEMENTS

A. Provide Extended Service Agreements and related documents with the Product Data. An Extended Service Agreement is a contract between the Owner and an approved Subcontractor or Supplier to provide service and or maintenance beyond that required to fulfill requirements for warranty repairs, or to perform routine maintenance for a definite period beyond the one-year correction period specified in the General Conditions.

B. An Extended Service Agreement does not relieve the Contractor from obligations under the one-year correction period or Warranty provisions specified in the General Conditions.

C. An Extended Service Agreement does not relieve the Contractor from obligations under the maintenance bond, if a maintenance bond is required by the Contract.

D. Requirements for the Extended Service Agreement are described in the Specification Sections for each piece of equipment or system requiring an Extended Service Agreement.

E. Enter into a contract with the service provider and assign the service contract to the Owner on the date of Substantial Completion. Once assigned to the Owner, Contract requirements for the Extended Service Agreement will be complete and will not extend the Contract between the Owner and Contractor.

F. Owner may require that a performance bond be provided for the Extended Service Agreement. Provide a separate bond meeting the same requirements as those for the Contractor's performance bond if required. The bond will be in the amount of the Extended Service Agreement.

G. Include an additional copy of Extended Service Agreements in operation and maintenance manuals.

H. Provide a copy of Extended Service Agreements in a separate document in accordance with Section 01 70 00 "Execution and Closeout Requirements."

1.08 PRODUCT DATA SUBMITTAL PROCEDURES

A. Submit Product Data to the Engineer. Send all documents in digital format for processing.

1. Provide all information requested. Do not leave any blanks incomplete. If information is not applicable, enter NA in the space provided.

2. Submit all documents in Portable Document Format (PDF) as required by Section 01 33 00 "Document Management." Provide color PDF documents where color is required to interpret the Product Data.

3. Submit each specific product, class of material, or equipment system separately so these can be tracked and processed independently. Do not submit Product Data for more than one system in the same Submittal.

4. Submit items specified in different Specification Sections separately unless they are part of an integrated system.

5. Define abbreviations and symbols used in Product Data.

a. Use terms and symbols in Product Data consistent with the Contract Drawings.

b. Provide a list of abbreviations and their meaning as used in the Product Data.

c. Provide a legend for symbols used on Product Data.

6. Mark Product Data to reference:

a. Related Specification Sections;

b. Drawing number and detail designation;

c. Equipment designation or name;

d. Schedule references;

e. System into which the product is incorporated; and

f. Location where the product is incorporated into the Project.

B. Complete the certification required by Paragraph **[1.05]**.

1.09 ENGINEER RESPONSIBILITIES

A. Product Data will be received by the Engineer, logged, and provided to Owner as the Project record.

1. Product Data may be reviewed to see that the information provided is adequate for the purpose intended. Product Data not meeting the requirements of Paragraph **[1.02]** may not be approved.

2. Product Data is not reviewed for compliance with the Contract Documents. Comments may be returned if deviations from the Contract Documents are noted during the cursory review performed to see that the information is adequate.

3. Contractor's responsibility for full compliance with the Contract Documents is not relieved by the review of Product Data. Contract modifications can only be approved by a Change Order or Field Order.

B. Engineer may take the following action in processing Product Data:

1. File Product Data as received if the cursory review indicates that the document meets the requirements of Paragraph **[1.02]**. Document will be marked "Filed as Received" and "Documents Filed." No further action is required on that Product Data.

2. Not approve the Product Data for one of the following reasons:

a. The documentation requirements of the Contract Documents indicate that the document submitted as Product Data should have been submitted as a Shop Drawing. The Product Data will be marked "Not Approved" and "Submit as Shop Drawing." No further action is required on this document as Product Data and the Product Data process will be closed. Resubmit the document as a Shop Drawing per Section 01 33 02 "Shop Drawings."

b. The cursory review indicates that the document does not meet the requirements of Paragraph **[1.02]**. The Product Data will be marked "Not Approved" and "Revise and Resubmit." Contractor is to resubmit the Product Data until it is acceptable and marked "Filed as Received." When Product Data is filed, no further action is required and the Product Data process will be closed.

c. The Product Data is not required by the Contract Documents nor is applicable to the Project. The Product Data will be marked "Not Approved" and "Cancelled." No further action is required and the Product Data process will be closed.

C. Contractor is to resubmit the Product Data until it is acceptable and marked "Filed as Received."

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 05 CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.01 SUMMARY

A. Prepare and submit a Progress Schedule for the Work and update the schedule on a monthly basis for the duration of the Project.

B. Provide Progress Schedule in adequate detail to allow Owner to monitor progress and to relate submittal processing to sequential activities of the Work.

C. Incorporate Contract Milestones into the schedule and show activities leading to achievement of these milestones.

D. Assume complete responsibility for maintaining the progress of the Work per the Progress Schedule submitted.

1.02 DOCUMENTATION

A. Submit the schedules to the Engineer. Send all documents in digital format for processing.

B. Do not leave any blanks incomplete. If information is not applicable, enter NA in the space provided.

C. Provide schedules, schedule updates and revisions to the Engineer in electronic format in its originating software and in Portable Document Format (PDF) as required by Section 01 33 00 “Document Management.”

D. Submit a preliminary Progress Schedule at the pre-construction conference.

E. Submit a detailed Progress Schedule at least 10 days prior to the first payment request.

F. Submit Progress Schedule updates monthly with the Applications for Payment to indicate the progress made on the Project to the closing date for the Application for Payment. Failure to submit Progress Schedules will cause delay in the review and approval of subsequent Applications for Payment.

1.03 PROGRESS SCHEDULE REQUIREMENTS

A. Progress Schedule is to be in adequate detail to:

1. Ensure adequate planning, scheduling, and reporting during the execution of the Work;
2. Ensure the coordination of the Work of the Contractor and the various Subcontractors and Suppliers;
3. Monitor the progress of the Work; and
4. Evaluate the impact of proposed changes to the Contract Times and Project Schedule.

B. Provide personnel with 5 years’ minimum experience in scheduling construction work comparable to this Project. Prepare the Progress Schedule using acceptable scheduling software.

C. Provide the Progress Schedule in the form of a computer-generated critical path schedule which includes Work to be performed on the Project. It is intended that the Progress Schedule accomplish the following:

1. Give early warning of delays in time for correction.
2. Provide detailed plans for the execution of the Work in the form of future activities and events in sequential relationships.
3. Establish relationships of significant planned Work activities and provide a logical sequence for planned Work activities.
4. Provide continuous current status information.
5. Allow analysis of the Contractor's program for the completion of the Project.
6. Permit schedules to be revised when the existing schedule is not achievable.
7. Log the progress of the Work as it actually occurs.

D. Provide a time-scaled horizontal bar chart which indicates graphically the Work scheduled at any time during the Project. The chart is to indicate:

1. Complete sequence of construction by activity;
2. Identification of the activity by structure, location, and type of Work;
3. Chronological order of the start of each item of Work;
4. The activity start and stop dates;
5. The activity duration; and production rates used to determine the duration;
6. Successor and predecessor relationships for each activity;
7. A clearly indicated single critical path; and
8. Projected percentage of completion, based on dollar value of the Work included in each activity as of the first day of each month.

E. Provide a Progress Schedule for Submittals:

1. Indicate the specific dates each document is to be delivered to the Engineer.
2. Allow a reasonable time to review each document, taking into consideration the size and complexity of the document, other documents being processed, and other factors that may affect review time.
3. Include time for making revisions to the Shop Drawings and resubmitting the Shop Drawing for at least a second review.
4. Assume a 14-day review cycle for each time a Shop Drawing is submitted for review unless a longer period is indicated in the Contract Documents or provided by the Engineer.
5. Contractor is responsible for delays associated with additional time required to review incomplete or erroneous documents and for time lost when documents are submitted for products that do not meet specification requirements.

1.04 PROGRESS SCHEDULE REVISIONS

A. Revise the Progress Schedule if it appears that the schedule no longer represents the actual progress of the Work.

1. Submit a Plan of Action for schedule recovery if the Progress Schedule or earned value analysis indicates that the Project is more than 30 days behind schedule. The report is to include:

a. Number of days behind schedule;

b. Narrative description of the steps to be taken to bring the Project back on schedule; and

c. Anticipated time required to bring the Project back on schedule.

2. Submit a revised Progress Schedule indicating the action that the Contractor proposes to take to bring the Project back on schedule.

B. Revise the Progress Schedule to indicate any adjustments in Contract Times approved by a Modification.

1. Include a revised Progress Schedule with Change Proposals if a change in Contract Times is requested.

2. Engineer will deem any Change Proposal that does not have a revised Progress Schedule and request for a change in Contract Times as having no impact on the ability of the Contractor to complete the Project within the Contract Times.

C. Updating the Progress Schedule to reflect actual progress is not considered a revision to the schedule.

D. Applications for Payment will not be recommended for payment without a revised Progress Schedule and if required, the report indicating the Contractor's plan for bringing the Project back on schedule.

1.05 FLOAT TIME

A. Define float time as the amount of time between the earliest start date and the latest start date of a chain of activities on the construction schedule.

B. Float time is not for the exclusive use or benefit of either the Contractor or Owner.

C. Where several subsystems each have a critical path, the subsystem with the longest time of completion is the critical path and float time is to be assigned to other subsystems.

D. Schedule completion date must be the same as the Contract completion date. Time between the end of construction and the Contract completion date is float time.

1.06 MODIFICATION OF CONTRACT TIMES

A. Contract Times cannot be changed by the submission of a Progress Schedule. Contract Times can only be modified by a Change Order or Contract Amendment.

B. Submit a Change Proposal for any proposed change in Contract Times, and include justification for the change in accordance with the provisions of the Contract Documents.

1.07 NEAR-TERM LOOK AHEAD SCHEDULES

A. Provide a near-term look ahead schedule (NTLA Schedule) every 14 days, typically at periodic coordination meetings, using the form provided by the Engineer which shows the days of planned activity for the following:

1. Submittals to be provided and day of anticipated return;
2. Equipment and material deliveries;
3. Arrival and departure of key construction equipment; and
4. Activities for the Contractor and each Subcontractor.

B. Coordinate NTLA Schedule with Project Schedule. Submit a report with each NTLA Schedule identifying deviations from the Project Schedule.

C. Submit a report of near-term work planned in the previous NTLA Schedule that was delayed or not executed by marking actual activity on the previous near term look ahead schedule. Provide explanation of why planned work was not executed and plan to execute in the future and regain time lost.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 50 00 TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. Provide temporary facilities, Contractor's field offices, storage sheds or containers, workshops, and other facilities needed to complete the Work.

B. Provide temporary utilities needed to support the operation of the facilities and construction activities.

C. Maintain any temporary project identification signs.

D. Provide temporary informational signs to identify key elements of construction and direct the flow of traffic.

E. Provide a weatherproof kiosk for display of permits and other notices required by Laws and Regulations.

F. Provide a rain gauge and a weatherproof box for documents pertaining to the North Carolina Department of Environmental Quality ("NCDEQ") Permit, including all NPDES Self-Inspections.

1.02 DOCUMENTATION

A. Provide the City of Fayetteville Traffic Engineer with a Traffic Control Plan within fourteen (14) days of being declared the lowest responsible bidder. See "Traffic Control" Section 00497 for further.

B. Provide the Owner and Engineer with a Site Storage Plan prior to beginning work.

1.03 QUALITY ASSURANCE

A. Inspect and test each utility before using facilities. Arrange for all required inspections and tests by regulatory agencies, and obtain required certifications and permits for use of facilities.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Transport, unload, and set up all temporary buildings and utilities.

1.05 JOB CONDITIONS

A. Locate buildings and sheds at the Site as indicated on the Drawings.

B. Prepare the Site by removing trees, brush, or debris and performing demolition or grubbing needed to clear a space adequate for the structures.

C. Provide Contractor's temporary facilities and utilities in time to avoid delays in the performance of the Work.

D. Provide and maintain temporary facilities and utilities.

E. Operate temporary facilities in a safe and efficient manner.

1. Restrict loads on utilities to operate within their designed or designated capacities.
2. Provide sanitary conditions. Prevent public nuisance or hazardous conditions from developing or existing at the Site.
3. Prevent freezing of pipes, flooding, or the contamination of water.
4. Maintain site security and protection of the facilities.

F. Remove temporary facilities and utilities when construction is complete and removal is approved by the Engineer.

PART 2 - PRODUCTS

2.01 CONTRACTOR'S FIELD OFFICE

A. Furnish a field office of adequate size for Contractor's use, if applicable.

B. Subcontractors may provide their own field offices only when space is available on the Site and the ENGINEER agrees to its size, condition, and location.

2.02 TEMPORARY STORAGE BUILDINGS

A. Furnish storage buildings of adequate size to store any materials or equipment delivered to the Site that might be affected by weather.

2.03 TEMPORARY SANITARY FACILITIES

A. Provide sanitary facilities at the Site for the entire duration of the Project. Maintain these facilities in a clean and sanitary condition at all times, and comply with the requirements of the local health authority. On large sites, provide portable toilets at such locations so that no point at the Site will be more than 600 feet from a toilet.

B. Use these sanitary facilities. Do not use restrooms within existing or Owner-occupied buildings.

2.04 TEMPORARY HEAT

A. Provide heating devices needed to protect buildings during construction. Provide fuel needed to operate the heating devices and attend the heating devices at all times they are in operation, including overnight operations.

2.05 TEMPORARY UTILITIES

A. Provide the temporary utilities for administration, construction, testing, disinfection, and startup of the Work, including electrical power, water, and telephone. Pay all costs associated with furnishing temporary utilities.

1. Provide a source of temporary electrical power of adequate size for construction procedures.

a. Use existing power systems where spare capacity is available. Provide temporary power connections that do not adversely affect the existing power supply. Submit connections to the Engineer for approval prior to installation.

b. Provide electrical pole and service connections that comply with Laws and Regulations and the requirements of the power company.

B. Provide power for construction and storage. Provide power to energize space heaters for stored electrical equipment.

2.06 WATER FOR CONSTRUCTION

A. Provide temporary water. Potable water may be purchased from the City of Fayetteville via a hydrant meter. Non-potable water may be used for hydraulic testing of non-potable basins or pipelines. Include the cost of water as well as its transportation and storage in the Contract Price.

PART 3 - EXECUTION

3.01 LOCATION OF TEMPORARY FACILITIES

A. Locate temporary facilities in areas approved by the Engineer. Construct and install signs at locations approved by the Engineer. Install informational signs so they are clearly visible.

3.02 TEMPORARY LIGHTING

A. Provide temporary lighting inside buildings once buildings are weatherproof.

B. Provide exterior security lighting.

C. Provide lighting that is adequate to perform Work within any space. Temporary lights may be removed once the permanent lighting is in service.

D. Provide portable flood lights at any time that Work will be performed outside the structure at night. Provide adequate lighting at any location Work is being performed.

3.03 REMOVAL OF TEMPORARY FACILITIES

A. Remove temporary buildings, sheds, and utilities at the conclusion of the Project and restore the Site to original condition or finished condition in accordance with the Drawings.

B. Remove informational signs upon completion of construction.

C. Remove project identification signs, framing, supports, and foundations upon completion of the Project.

3.04 MAINTENANCE AND JANITORIAL SERVICE

A. Empty trash and service portable toilets weekly.

B. Maintain signs and supports in a neat, clean condition. Repair damage to structures, framings, or signs.

C. Repair any damage to Work caused by placement or removal of temporary signage.

END OF SECTION

01 57 00 TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. Provide labor, materials, equipment, and incidentals necessary to construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed. Comply with Section 01 57 23 “NC Erosion and Sedimentation Control.”

B. Construct temporary impounding works, channels, diversions, furnishing, and operation of pumps, installing piping and fittings, and other construction for control of conditions at the Site. Remove temporary controls at the end of the Project. Comply with Section 01 57 23 “NC Erosion and Sedimentation Control.”

1.02 DOCUMENTATION

A. Provide Shop Drawings in accordance with Section 01 33 02 “Shop Drawings.”

B. Provide copies of notices, records, and reports required by the Contract Documents or Laws and Regulations as Product Data in accordance with Section 01 31 13 “Project Coordination.” Comply with Section 01 57 23 “NC Erosion and Sedimentation Control.”

1.03 QUALITY ASSURANCE

A. Construct and maintain temporary controls with adequate workmanship using durable materials to provide effective environmental management systems meeting the requirements of the Contract Documents and Laws and Regulations. Use materials that require minimal maintenance to prevent disruption of construction activities while providing adequate protection of the environment.

B. Periodically inspect systems to determine that they are meeting the requirements of the Contract Documents.

C. Comply with Section 01 57 23 “NC Erosion and Sedimentation Control.”

1.04 POLLUTION CONTROL

A. Prevent the contamination of soil, water, or atmosphere by the discharge of noxious substances from construction operations. Provide adequate measures to prevent the creation of noxious air-borne pollutants. Prevent dispersal of pollutants into the atmosphere. Do not dump or otherwise discharge noxious or harmful fluids into drains or sewers, nor allow noxious liquids to contaminate public waterways in any manner.

B. Provide equipment and personnel and perform emergency measures necessary to contain any spillage.

1. Contain chemicals in protective areas and do not dump on soil. Dispose of such materials at off-site locations in an acceptable manner.

2. Excavate contaminated soil and dispose at an off-site location if contamination of the soil does occur. Fill resulting excavations with suitable backfill and compact to the density of the surrounding undisturbed soil.

3. Provide documentation to the Owner which states the nature and strength of the contaminant, method of disposal, and the location of the disposal site.

4. Comply with Laws and Regulations regarding the disposal of pollutants.

C. Groundwater or run-off water which has come into contact with noxious chemicals, sludge, or contaminated soil is considered contaminated. Do not allow contaminated water to enter streams or water courses, leave the Site in a non-contained form, or enter non-contaminated areas of the Site.

1. Construct temporary holding ponds or take other precautions and measures as required to contain the contaminated water and pump to a designated storage area.

2. Wash any equipment used for handling contaminated water or soil within contaminated areas three times with uncontaminated water prior to using such equipment in an uncontaminated area. Dispose of wash water used to wash such equipment as contaminated water.

1.05 EARTH CONTROL

A. Remove excess soil, spoil materials, and other earth not required for backfill. Control stockpiled materials to eliminate interference with Contractor and Owner's operations.

B. Dispose of excess earth off the Site. Provide written approval from the property owner for soils deposited on private property as Product Data per Section 01 31 13 "Project Coordination." Obtain approval of the Owner if this disposal impacts the use of Site or other easements.

1.06 AIR POLLUTION CONTROL

A. Air Pollution Watch Days:

1. Air Pollution Watch Days (APWD) may occur in the following times:

a. Typical Ozone Season: May 1 through October 31.

b. Critical Emission Time: 6:00 a.m. to 10:00 a.m.

2. Watch Days:

a. State or local environmental regulatory agencies, in coordination with the National Weather Service, may designate the following day as an APWD by 3:00 p.m. on the prior afternoon.

b. Begin work after 10:00 a.m. on designated APWD if work requires the use of heavy construction equipment for run times in excess of 1 hour prior to 10:00 a.m. Heavy construction equipment may be used prior to 10:00 a.m. if equipment is certified by EPA as "Low Emitting" or equipment burns Ultra Low Sulfur Diesel (ULSD), diesel emulsions, or alternative fuels such as CNG.

B. Obtain air permit for construction activities per requirements of Laws and Regulations.

1.07 TEMPORARY STORMWATER POLLUTION CONTROL

A. Provide temporary stormwater pollution control per Section 01 57 23 "NC Erosion and Sedimentation Control."

1.08 MANAGEMENT OF WATER

A. Manage water resulting from rains or ground water at the Site. Maintain trenches and excavations free of water at all times.

B. Lower the water table in the construction area by acceptable means if necessary to maintain a dry and workable condition at all times. Provide drains, sumps, casings, well points, and other water control devices as necessary to remove excess water.

C. Provide continuous operation of water management actions. Maintain standby equipment to provide proper and continuous operation for water management.

D. Ensure that water drainage does not damage adjacent property. Divert water into the same natural watercourse in which its headwaters are located, or other natural stream or waterway as approved by the Owner. Assume responsibility for the discharge of water from the Site.

E. Remove the temporary construction and restore the Site in a manner acceptable to the Engineer and to match surrounding material at the conclusion of the Work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide materials that comply with Laws and Regulations.

PART 3 - EXECUTION

3.01 CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY CONTROLS

A. Construct temporary controls in accordance with Laws and Regulations.

B. Maintain controls in accordance with regulatory requirements where applicable or in accordance with the requirements of the Contract Documents.

C. Remove temporary control when no longer required, but before the Project is complete. Correct any damage or pollution that occurs as the result of removing controls while they are still required.

END OF SECTION

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01 57 23 NORTH CAROLINA EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. The Work shown in the Drawings and specified herein shall constitute the erosion control plan for this project in conformance with the Sedimentation Pollution Control Act of 1973 and subsequent regulations including those set forth in the most recent publication "Erosion and Sediment Control Planning and Design Manual" by the North Carolina Department of Environmental Quality (NCDEQ). The erosion control plan shown is based on the anticipated construction methods and sequencing, including the permanent and temporary measures as required. The Contractor shall provide at no additional cost to the Owner any other measures as may be required to prevent erosion because of construction activity at the site.

B. Temporary erosion control measures shall include, but not be limited to the following: water diversion/pump around, stilling basin, sediment fence, check dam, temporary sediment trap, rock doughnut inlet protection, coir fiber matting, temporary seeding, or any other methods or devices that are necessary to control or restrict erosion. Temporary erosion control measures may include work outside the right-of-way or construction limits with written approval of the Engineer. The Contractor shall be liable for all damages to public or private property caused by silting or slides originating in areas used by the Contractor.

1.02 CONTRACTOR RESPONSIBILITY

A. Furnish labor, materials, equipment, and incidentals necessary to provide the system of erosion and sedimentation control measures in accordance with the approved project Erosion and Sediment Control (E&SC) plans. Approved E&SC plans serve as the minimum requirements and additional measures and/or modifications may be required by the Engineer and shall be provided at no additional cost to the Owner. Any additional E&SC measures or modifications that the Contractor chooses to provide are acceptable as long as the minimum requirements are met and shall be provided at no additional cost to the Owner. Install and maintain erosion and sedimentation control devices for the entire Site as required to function properly and to satisfy the representatives of the NCDEQ, including Division of Energy, Mineral and Land Resources (DEMLR), the Engineer, and the Owner.

B. For guidance on furnishing, installing, maintaining, and removing erosion and sediment control measures, use the approved and sealed project plans, the latest editions of the North Carolina Erosion and Sediment Control Planning and Design Manual, Division 16 of the North Carolina Department of Transportation's Standard Specifications for Roads and Structures, and the following provisions for the duration of the construction period. Only remove the measures when approved to do so by the Engineer and local NCDEQ. Promptly follow all directions by the Engineer and local NCDEQ.

C. Contractor shall comply with the requirements of the Sedimentation Pollution Control Act of 1973 and amendments, including but not limited to the rules and regulations promulgated pursuant to the provisions of said act.

D. In addition to complying with the project E&SC Plan, Contractor shall adhere to the requirements of the North Carolina General NPDES Permit No. NCG010000 (Stormwater Discharge Permit for Construction Activities).

1. Contractor shall be responsible for inspecting each erosion and sedimentation control measure at least once every seven (7) days and within twenty-four (24) hours of a storm event greater than 0.5 inches of rain over a period of twenty-four (24) hours. Contractor shall also observe runoff at the project stormwater outfalls for characteristics listed in the permit (clarity, solids, oil sheen, etc.).

2. Contractor shall keep a record of these inspections on the appropriate Division of Water Quality forms provided with permit NCG010000 (or similar form) and shall make these records available for review at the site. The monitoring condition set forth are available in the Division of Water Quality permit NCG01000.

3. Section 402 of the Clean Water Act states that for all construction contracts where disturbed area is one (1) acre or greater, all erosion control devices and best management practices ("BMPs") be monitored for compliance. Documentation must be provided in accordance with Section 01 33 00 "Document Management." Submit copies of required notices and reports to the Engineer as Product Data in accordance with Section 01 33 03 "Product Data."

4. Contractor shall supply, erect, secure and maintain an appropriate rain gauge for the necessary monitoring of rainfall amounts on the construction sites in this contract. The rain gauge shall be properly erected and secured. This gauge will be the full responsibility of the contractor and if lost or stolen is to be promptly replaced.

E. Failure by the Contractor to comply with the standards or failure to perform any required erosion control measure may result in notification by the Engineer, Owner, or NCDEQ to the Contractor directing remedial action to bring controls into compliance. Remedial action must begin by Contractor within twenty-four (24) hours of receipt of such notice to prevent the Engineer from ordering all work on the job stop and proceeding with having the work performed by others. Any work performed by others will result in no payment or pay item adjustments to the Contractor.

F. Verify required permits prior to beginning any construction or land-disturbing activities.

G. Surfaces on the construction site must be stabilized within the time-limits herein, and sediment must be retained on the site.

H. Any modification to the approved Erosion and Sediment Control Plan must be approved by the Engineer and local NCDEQ before it is implemented.

I. Erosion control measures must be allowed to dewater naturally before removal of the device. It is prohibited to de-water erosion control devices containing sediment-laden water by directly draining to streams.

J. Remove temporary E&SC measures only as they are no longer needed and only with approval of the Engineer and local NCDEQ. Permanent E&SC measures shall be in place prior to the removal of the temporary control measures.

K. To the fullest extent permitted by law, the Contractor(s) shall indemnify and hold harmless the City of Fayetteville and agents, consultants and employees of the City of Fayetteville, from and against all claims, damages, civil penalties, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from the performance of work or failure of performance of work, provided that any such claim, damage, civil penalty, loss or expense is attributable to a violation of the Sedimentation Pollution Control Act of 1973. Such

obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or persons described in this Contract.

1.03 QUALITY ASSURANCE

A. Any land-disturbing activity performed by the Contractor(s) in connection with the project shall comply with all erosion control measures set forth in the contract documents and any additional measures which may be required in order to ensure that the project is in full compliance with the Sedimentation Pollution Control Act of 1973.

B. Install all features in accordance with the project E&SC plans and with guidance from the NC Erosion and Sedimentation Control Planning and Design Manual standards and other features as required by the Engineer or the Owner.

C. Protect waterways and wetlands from materials used during preparation and installation of sediment and erosion control features, including sediment, fill, admixtures, oil and grease, loose debris, and chemicals.

D. Periodically clean out and dispose of all sediment and other pollutants as necessary to maintain adequate treatment capacity of each pollution control feature. Do not damage structure or device during cleaning operations.

E. If the sediment control device is damaged, it shall be repaired or replaced immediately.

F. Clean out and properly dispose of all sediment and other stormwater pollutants at the time of completion of the Work.

G. Borrow, Stockpile, and Disposal Areas

1. Obtain and pay for erosion control permit for borrow, stockpile, and disposal areas as required by Engineer and local NCDEQ.

2. Install and maintain erosion control devices in accordance with Contractor’s approved plan.

1.04 SUBMITTALS

A. Materials and facilities for temporary erosion control measures shall have been approved by the Engineer before being used. Any facilities or materials different from those shown on the drawings or specified herein shall be submitted to the Engineer for approval.

B. Product Data: Submit manufacturer's technical data and material samples for each type of product listed including but not limited to sediment fence fabrics, ditch liner, filter cloth, matting for sediment fence fabrics, and other manufactured materials as requested.

C. Material Certificates: Submit material certificates signed by manufacturer and Contractor certifying specification compliance for posts, woven wire, filter stone, riprap, and other products as requested.

D. Drawings: Submit scaled drawings of changes in facilities shown on drawings and additional facilities proposed by Contractor or Engineer.

1.05 CONSTRUCTION SEQUENCE

A. Comply with construction sequence as shown on the Drawings.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Temporary Silt Fences: Use posts and metal fence fabric as detailed in the plans and cover with filter cloth as indicated to furnish an effective filtering medium to separate soil sediment from the storm water runoff. The filter cloth shall be permanently attached to the fence to prevent displacement and the bottom of the filter cloth shall be buried to prevent under-washing in heavy rainstorms.

B. Special Sediment Control Fence: Use posts, hardware cloth, and sediment control stone as detailed in the plans. Place stone at the base of the hardware cloth to reduce water flow and retain sediment as detailed in the plans.

C. Temporary Swales and Ditches: Temporary swales and ditches shall be graded to the profiles and sections indicated in the locations as directed. Slope all swales and ditches to drain to the basins and/or filters as indicated. Sides/berm should be stabilized with seed and mulch or fabric as detailed in the plans.

D. Temporary Slope Drain: Berms to channel runoff into the slope drain should be graded to the profiles and sections indicated in the locations as directed. Use a flexible pipe from inlet to outlet secured by stakes. Outlet dissipater pad should be rip rap or silt basin as detailed in the plans.

E. Riser Basin: A basin to capture runoff from a large project area with a riser pipe to drain the basin and an overflow spillway to control excess runoff.

F. Silt Basin: A pit or basin to collect sediment flowing through a drainageway in conjunction with rock silt checks or drainage inlet as detailed in the plans.

G. Filters: Gravel filters as detailed on the drawings, consisting of piles of sediment control stone placed around permanent and temporary drainage structures as detailed in the plans.

H. Temporary Rock Silt Checks: A small dam with a weir outlet to trap sediment in the naturally formed storage area. Use Class B stone lined or unlined with sediment control stone as detailed in the plans.

I. Temporary Rock Sediment Dams: A larger dam structure with a weir outlet prior to the point where runoff leaves the project site. Use rip rap and sediment control stone as detailed in the plans.

J. Rock Pipe Inlet Sediment Traps: A horseshoe shaped device to prevent sediment from entering a pipe structure. Use rip rap and sediment control stone as detailed in the plans.

K. Skimmer Basin: A temporary basin with a trapezoidal spillway lined with filter fabric and utilizing a floating skimmer. Use a Faircloth Skimmer at the outlet, an emergency spillway with filter fabric, and coir fiber baffles as detained in the plans.

L. Stilling Basin: An earthen basin used to settle sediment from water that is being pumped. Use coir fiber baffles to slow down water and allow sediment to settle as detailed in the plans.

M. Rock Inlet Sediment Trap, Types A and B: A circular stone dam to protect an inlet from a moderate to large drainage area. Use Class A or B stone lined with sediment control stone as detailed in the plans.

N. Rock Inlet Sediment Trap, Type C: Use posts, hardware cloth, and stone of type and class as detailed on the drawings to protect a drop inlet from channel or limited flow. Stone, per class specified, shall be placed around the outside perimeter of the inlet structure with approximately 2:1 side slopes and plate the upstream side with #57 stone or others as specified in the plans.

O. Coir Fiber Baffle: A barrier to reduce the velocity of water in basins so that the sediment in the water settles before flowing off-site as detailed in the plans.

P. Gravel Construction Entrance: A stone pad where vehicles enter and exit a construction site or work area to clean vehicle tires and prevent sediment from leaving the site. Use Class A stone or other class in the dimensions detailed in the plans.

Q. Special Stilling Basin: A permeable fabric bag to trap sediment-laden water and serve as a portable stilling basin as detailed in the plans.

R. Wattle: A tubular device consisting of excelsior, coir fibers, or straw encased in natural or synthetic netting as detailed in the plans. Use in temporary and permanent ditches to reduce runoff velocity.

S. Matting: Provide excelsior matting or straw matting as directed. Furnish a material certification certifying that the matting meets this article. Other acceptable material manufactured especially for erosion control may be used when approved by the Engineer in writing before being used. Matting for erosion control shall not be dyed, bleached or otherwise treated in a manner that will result in toxicity to vegetation.

1. Excelsior matting shall consist of a machine produced mat of curled wood excelsior at least 47" in width and weigh 0.975 lb/sy with a tolerance of ± 10%. At least 80% of the individual excelsior fibers shall be 6" or more in length. Evenly distribute the excelsior fibers over the entire area of the blanket. Cover one side of the excelsior matting with an extruded plastic mesh. The mesh size for the plastic mesh shall be no more than 1" x 1".

2. Straw matting shall consist of a machine produced mat of 100% grain straw. The straw matting shall have a width of at least 48" and no more than 90" and weighing at least 0.50 lb/sy and no more than 0.75 lb/sy. Evenly distribute the straw over the entire area of the blanket. Cover one side of the blanket with photodegradable netting with a maximum mesh (netting) size of 0.75" x 0.75" sewn together with a degradable thread. The grain straw shall contain no weed seeds. Package each roll separately.

3. Wire Staples shall be machine made of No. 11 gauge new steel wire formed into a U-shape. The size when formed shall be not less than 6" in length with a throat of not less than 1" in width.

2.02 WATER DIVERSION/PUMP AROUND

A. The diversion pump(s)/diversion shall be adequate to redirect runoff around construction activities. Sediment pumps shall be used to pump water that has infiltrated into the construction area while construction activities are on-going. Special stilling basins shall be

used to filter sediment-laden water prior to returning to the project below construction activities. Sediment pumps shall be sized adequately to remove water from the construction area. Pumping/Diverting shall be maintained around the area of the project being constructed such that water does not overtop the excavated basins at any time.

B. It shall be the responsibility of the contractor to provide all pumps, hose, materials, apparatus, fuel, pipe, and maintenance required to maintain pumping/diversion activities required during construction for the duration of the project.

PART 3 - EXECUTION

3.01 PREPARATION

A. Have all materials necessary to complete the intended erosion control measure installation and maintenance before disturbing the land.

3.02 INSTALLATION

A. Install erosion control devices, which shall be in place and operational prior to other land disturbing activity.

B. After installing erosion control devices as indicated on the Drawings, verify that reasonable measures have been taken to prevent the sedimentation of nearby watercourses, existing and new facilities, and adjacent property.

C. Should Contractor or Engineer believe that additional measures are necessary to adequately prevent erosion, immediately notify Engineer, Contractor, and Owner. If rain is predicted before the said parties can be notified, take measures as necessary to prevent siltation of nearby water courses.

D. After installing erosion control devices, request an inspection by the local agency having jurisdiction and the Engineer.

E. Incorporate permanent erosion control work into the project at the earliest practicable time. Coordinate temporary erosion control measures with permanent erosion control measures and other work on the project to assure effective and continuous erosion control throughout the construction and post construction period.

F. Maintain erosion control devices during construction until the disturbed areas are stabilized and the agency having jurisdiction and the Engineer have approved the removal of the erosion control devices.

G. Refer to NCDEQ guidelines for installation of additional features not included below.

H. Temporary Silt Fences: The filter cloth shall be permanently attached to the fence to prevent displacement and the bottom of the filter cloth shall be buried to prevent under-washing in heavy rainstorms. Eighteen inches of overlap is required when splicing. Do not install across a stream, ditch, waterway, or an area of concentrated flow.

I. Special Sediment Control Fence: The hardware cloth should be permanently attached to the fence and folded along the ground surface with sediment control stone placed on top at a minimum depth of one (1) foot.

J. Temporary Swales and Ditches: The ditch should be a minimum depth of one (1) foot to six (6) feet with 2:1 side slopes. Sides/berm should be stabilized with seed and mulch or fabric as directed. Maintain structure in place until the installation of final drainageways.

K. Temporary Slope Drain: The flexible pipe should be a minimum of twelve (12) inches in diameter and staked into position every ten (10) feet or less.

L. Riser Basin: Construct and install as directed by the drawings. Do not use in a perennial stream. Ensure overflow spillway is armored with rip rap as directed, does not exceed the specified elevation, and is the lowest point.

M. Silt Basin: Construct basin such that its length is equal to twice its width, with a depth of a minimum of two (2) feet. Clean basin regularly. Maintain until vegetation becomes established.

N. Temporary Rock Silt Checks: Construct such that each side of the check is of the same elevation. Install a weir at the center and extend approximately 2/3 of the channel width. Space so that the top of a lower dam is the same elevation as the toe elevation of the upper dam.

O. Temporary Rock Sediment Dams: Apron length should be approximately equal to the height of the dam with a minimum armored slope of 2:1. Do not place in live streams.

P. Rock Pipe Inlet Sediment Traps: Dam must be a minimum of eighteen (18) inches high.

Q. Skimmer Basin: Limit dam height to five (5) feet and ensure that emergency spillway is both armored and located at the lowest elevation of the dam. Install three rows of coir fiber baffles, or as detailed by the plans.

R. Stilling Basin: Do not pump sediment-laden water directly into a stream. Basin length should be a minimum of two times the width of the basin, with three coir fiber baffles diving the basin length into quarters, or as detailed by the plans.

S. Rock Inlet Sediment Trap, Types A and B: For Type A, use Class B stone with a minimum dam height of two (2) feet. For Type B, use a Class A stone with a minimum dam height of eighteen (18) inches.

T. Rock Inlet Sediment Trap, Type C: The hardware cloth should be permanently attached to the fence and folded along the ground surface with sediment control stone placed on top at a minimum depth of one (1) foot.

U. Coir Fiber Baffle: Use coir fiber mat attached permanently to steel T-posts. Install at spacing and length as detailed in the plans.

V. Gravel Construction Entrance: Minimum depth is eight (8) inches and minimum dimensions are fifty (50) feet long by twelve (12) feet wide. ABC may be used for part of the pad with Engineer approval.

W. Special Stilling Basin: Minimum dimensions of the bag are ten (10) feet by fifteen (15) feet with a maximum inlet spout of eight (8) inches. Place on a rock pad lined with filter fabric and eight (8) inches of sediment control stone, or as detailed in the plans.

X. Wattle: Minimum diameter wattle should be twelve (12) inches. Install using stakes on either side, but not through the middle, of the wattle. Place on top of erosion control matting or as detailed in the plans.

Y. Matting: Install matting with anchors at corners.

3.03 WATER DIVERSION/PUMP AROUND

A. Furnish, install, maintain, operate, and remove all pump systems and diversions used on this project. Pump-arounds/diversions shall be installed according to the Drawings and Project Manual. Multiple methods may be allowed. The pump-around system/diversion shall provide a passageway for any accumulated runoff from the work site. If the Engineer deems that the pumping/diverting method selected by the Contractor is inadequate for any reason, the Engineer may direct the use of another pumping/diverting method at no cost to the Owner. The Contractor shall install pump-around systems and diversions in locations indicated on the Drawings and in the Project Manual. Sediment pumps shall be used as required and as directed by the Engineer to remove water from work areas while retaining sediment prior to discharging back into the project.

B. The number of setups for diversion pumping/diversions may be increased, decreased, or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

C. Install a special stilling basin as specified in the Drawings. Pump/divert water around the work site. If the water is turbid or exposed to bare soil, pump through a special stilling basin. Follow the detail for the pump-around/pipe diversion. Once the work is complete in the construction area, impervious dikes, pumping systems, and/or diversions shall be removed or relocated.

3.04 TEMPORARY SEEDING

A. The Contractor is responsible for establishing and maintaining vegetation on all disturbed areas. Furnishing, place, and incorporate soil amendments, fertilizer, and seed; compacting the seedbed; furnishing, placing, and securing mulch; and performing other operations necessary for the temporary establishment of vegetation. For all requirements, see Technical Specification Sections and Drawings Details.

B. All applications of seed, whether temporary, permanent, or a combination, will include the application of fertilizer, amendments, and mulch according to the recommended rates.

C. Fertilizer applied by means of a hydro-seeder shall be a liquid.

3.05 MAINTENANCE

Maintain E&SC measures in full working order at all times during construction. This must include any necessary repair or replacement of items which have become damaged or ineffective. Remove sediment and other pollutants which accumulate in the measure as necessary to maintain the intended design efficiency.

A. Roadways, and parking areas shall be stoned immediately upon completion of grading.

B. Clean sediment transported onto roadways within the plant site and public roads at the end of each day. Sediment shall be removed by shoveling or sweeping and be transported to a controlled disposal area. Street washing shall be allowed after sediment is removed in this manner.

C. Dispose properly of trash, debris, and other pollutants.

D. Place sediment material in approved earth spoil areas or return the sediment material to the area from which it eroded.

E. Maintain E&SC measures until

1. construction is complete for the area protected,

2. the Site achieves final stabilization, and

3. approval to remove has been given by the Engineer and local NCDEQ.

F. Matting must be inspected for bare spots caused by weather related events. Missing or loosened matting must be replaced or re-anchored. Also check for excess sediment deposited from runoff. Remove sediment and/or replace blanket as necessary. In addition, determine the source of excess sediment and implement appropriate Best Management Practices to control the erosion.

G. Silt fences must be inspected for buildup of excess sediment, undercutting, sags, and other failures. Sediment should be removed when it reaches approximately one-half the height of the fence. If the fabric becomes damaged or clogged, it must be repaired or replaced as necessary.

H. Inlet protection must be inspected regularly (at least as often as required by the General Permit). Floatable debris and other trash caught by the inlet protection should be removed after each storm event. Sediment should also be removed from curb inlet protection after each storm event because of the limited storage area associated with curb inlets. Sediment collected at inlet protection should be removed before it reaches half the height of the protection device. Sediment should be removed from inlets with excavated impoundment protection before the volume of the excavation is reduced by 50 percent. In addition, the weep holes should be checked and kept clear of blockage. Concrete blocks, 2-inch by 4-inch boards, stakes, and other materials used to construct inlet protection should be checked for damaged and repaired or replaced if damaged. When filter fabric or organic filter tubes are used, they should be cleaned or replaced when the material becomes clogged. For systems using filter stone, when the filter stone becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Because of the potential for inlet protection to divert runoff or cause localized flooding, remove inlet protection as soon as the drainage area contributing runoff to the inlet is stabilized. Ensure that all inlet protection devices are removed at the end of the construction.

I. The stone outlet sediment trap should be inspected regularly (at least as often as required by the General Permit) to check for clogging of the void spaces between stones. If the filter stone appears to be clogged, such that the basin will not completely drain, then the filter stone will require maintenance. If the filter stone is not completely clogged it may be raked with a garden rake to allow the water to release from the basin. If filter stone is completely clogged with mud and sediment, then the filter stone will have to be removed and replaced. Failure to keep the filter stone material properly maintained will lead to clogging of the stone riprap embankment. When this occurs, the entire stone rip-rap structure will need to be replaced. If the aggregate appears to be silted in such that efficiency is diminished, the stone should be replaced. Trash and debris should be removed from the trap after each storm event to prevent it from plugging the rock. Deposited sediment must be removed before the storage capacity is decreased by one-third, or sediment has reached a depth of 1 foot,

whichever is less. The removed sediment must be stockpiled or redistributed in areas that are protected with erosion and sediment controls.

J. Sediment basins: Sediment must be removed and the basin must be re-graded to its original dimensions when the sediment storage capacity of the impoundment has been reduced by 20 percent. The removed sediment may be stockpiled or redistributed on-site in areas that are protected by erosion and sediment controls. Inspect temporary stabilization of the embankment and graded basin and the velocity dissipaters at the outlet and spillway for signs of erosion. Repair any eroded areas that are found. Install additional erosion controls if erosion is frequently evident.

K. Check dams: Silt must be removed when it reaches approximately one-third the height of the dam or 12 inches, whichever is less. Inspectors should monitor the edges of the dam where it meets the sides of the drainage ditch, swale, or channel for evidence of erosion due to bypass or high flows. Eroded areas must be repaired. If erosion continues to be a problem, modifications to the check dam or additional controls are needed. Care must be used when taking out rock check dams in order to remove as much rock as possible. Loose rock can create an extreme hazard during mowing operations once the area has been stabilized.

L. Stabilized construction entrances/exits: The stabilized construction exit must be maintained in a condition that prevents tracking or flow of sediment onto paved surfaces. Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the exit from diminishing. The rock must be re-graded when ruts appear. Additional rock must be added when soil is showing through the rock surface. Additional controls are needed if inspections reveal a properly installed and maintained exit but tracking of soil outside the construction area is still evident. Additional controls may be daily sweeping of all soil spilled, dropped, or tracked onto public rights-of-way or the installation of a wheel cleaning system.

END OF SECTION

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Comply with requirements of the General Conditions and specified administrative procedures in closing out the Contract.

1.02 DOCUMENTATION

A. Submit affidavits and releases on forms provided by the Engineer.

1.03 SUBSTANTIAL COMPLETION

A. The following requirements must be met for the Project or a designated portion of the Work to be Substantially Complete per the General Conditions:

1. Work must be fully functional and able to operate in accordance with the Contract Documents without special or extraordinary efforts on the part of the Owner.

2. Performance Acceptance Testing (PAT) must be complete and indicated compliance with the requirements of the Contract Documents.

3. Operation and maintenance manuals must be approved and operator training conducted to allow the Owner to assume responsibility for operations.

B. Conduct inspections with superintendent, Subcontractors, and Suppliers for the Work or a designated portion of the Work prior to calling for a Substantial Completion inspection by the Owner. Create a list of deficiencies in the Work that must be completed for the Project to qualify for Substantial Completion. Review the list with the Engineer or the designated member of the Owner. The Engineer or the designated member of the Owner may assist the Contractor with this effort; however, it is the Contractor's responsibility to create and manage this list of deficiencies until corrections are made.

C. Correct the identified deficiencies prior to calling for a Substantial Completion inspection.

D. Notify the Engineer that the Work or a designated portion of the Work is Substantially Complete per the General Conditions. Include a list of the items remaining to be completed or corrected before the Project will be considered for Final Completion.

E. Owner will visit the Site to observe the Work within a reasonable time after notification is received to determine the status of the Project.

F. Engineer will notify the Contractor that the Work is either Substantially Complete or that additional Work must be performed before the Project will be considered Substantially Complete.

1. Engineer will notify the Contractor of items that must be completed before the Project will be considered Substantially Complete.

2. Correct the noted deficiencies in the Work.

3. Notify the Engineer when the items of Work in the Engineer's notice have been completed.

4. Owner will revisit the Site and repeat the process.

5. Engineer will issue a Certificate of Substantial Completion to the Contractor when the Owner considers the Project to be Substantially Complete. The certificate will include a tentative list of items to be corrected before Final Payment will be recommended.

6. Review the list and notify the Engineer of any objections to items on the list within 10 days after receiving the Certificate of Substantial Completion.

1.04 TRANSFER OF UTILITIES

A. Transfer utilities to the Owner when the Certificate of Substantial Completion has been issued.

B. Submit final meter readings for utilities and similar data as of the date the Owner occupied the Work.

1.05 CLOSEOUT REQUIREMENTS

A. Provide the following before Final Completion:

1. Record Documents per Section 01 31 13 “Project Coordination”;

2. Keys and keying schedule;

3. Warranties, bonds, and service agreements;

4. Equipment Installation Reports;

5. Shop Drawings, Product Data, operation and maintenance manuals, and other documentation required by the Contract Documents;

6. Specified spare parts and special tools;

7. Certificates of occupancy, operating certificates, or other similar releases required to allow the Owner unrestricted use of the Work and access to services and utilities;

8. Evidence of continuing insurance and bond coverage as required by the Contract Documents; and

9. Final videos and photographs per Section 01 33 06 “Graphic Documentation.”

1.06 WARRANTIES, BONDS, AND SERVICES AGREEMENTS

A. Provide warranties, bonds, and service agreements required by Section 01 33 00 “Document Management” or by the individual Sections of the Specifications.

B. The date for the start of warranties, bonds, and service agreements is established per the General Conditions.

C. Compile warranties, bonds, and service agreements and review these documents for compliance with the Contract Documents.

1. Each document is to be signed by the respective Supplier or Subcontractor.

2. Each document is to include:

a. The product or Work item description;

b. The firm name, with the name of the principal, address, and telephone number;

c. Scope of warranty, bond, or services agreement;

d. Date, duration, and expiration date for each warranty bond and service agreement;

e. Procedures to be followed in the event of a failure; and

f. Specific instances that might invalidate the warranty or bond.

D. Submit digital copies of the documents to the Engineer for review.

E. Submit warranties, bonds, and services agreements within 10 days after equipment or components placed in service.

1.07 FINAL COMPLETION

A. Conduct inspections with Superintendent, Subcontractors, and Suppliers prior to calling for a Final Completion inspection by the Owner. Create a list of deficiencies in the Work that must be completed for the Project to qualify for the Final Completion inspection. Review the list with the Engineer or the designated member of the Owner. The Engineer or the designated member of the Owner may assist the Contractor with this effort; however, it is the Contractor's responsibility to create and manage this list of deficiencies until corrections are made.

B. Identify, list, and correct deficiencies prior to calling for a Final Completion inspection. The Project at the call for Final Completion represents the Contractor's interpretation of a project completed in conformance with the Contract Documents and reflects the Contractor's representation of a quality project meeting the Owner's expectations.

C. Notify the Engineer when:

1. Work has been completed and complies with the Contract Documents;

2. Equipment and systems have been tested per the Contract Documents and are fully operational;

3. Final operation and maintenance manuals have been provided to the Owner and all operator training has been completed;

4. Specified spare parts and special tools have been provided;

5. Work is complete and ready for final inspection;

6. Final documentation for all outstanding Modifications and Claims (other than those listed on the Certificate of Final Completion) have been processed and are ready for incorporation into the final Application for Payment; and

7. Closeout requirements in Paragraph **1.05** have been completed.

D. Owner will visit the Site to determine if the Project is complete and ready for final payment within a reasonable time after the notice is received.

E. Engineer will notify the Contractor that the Project is complete or will notify the Contractor that Work is Defective.

F. Take immediate steps to correct Defective Work. Notify the Engineer when Defective Work has corrected. Owner will visit the Site to determine if the Project is complete and the Work

is acceptable. Engineer will issue a Certificate of Final Completion to the Contractor when the Project is complete or will notify the Contractor that Work is Defective.

G. Submit the request for final payment with closeout documentation described in Paragraph **1.06** if notified that the Project is complete and the Work is acceptable.

1.08 REINSPECTION FEES

A. Owner may impose a set-off against the Application for Payment in accordance with the General Conditions to compensate the Owner for additional visits to the Project if additional Work is required.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 74 23 FINAL CLEANING

PART 1 - GENERAL

1.01 SUMMARY

A. Perform a thorough cleaning of the Site, buildings, or other structures prior to Owner occupancy of the buildings, and prior to Final Completion. Leave the Project clean and ready for occupancy.

1.02 DOCUMENTATION

A. Provide data for maintenance per Section 01 33 04 “Operation and Maintenance Data.”

1.03 QUALITY CONTROL

A. Use experienced workmen or professional cleaners for final cleaning.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Furnish the labor and products needed for cleaning and finishing as recommended by the manufacturer of the surface material being cleaned.

B. Use cleaning products only on the surfaces recommended by the Supplier.

C. Use only those cleaning products which will not create hazards to health or property and which will not damage surfaces.

PART 3 - EXECUTION

3.01 FINAL CLEANING

A. Thoroughly clean the entire Site and make ready for occupancy.

1. Remove construction debris, boxes, and trash from the Site.
2. Remove construction storage sheds and field offices.
3. Restore grade to match surrounding condition and remove excess dirt.
4. Sweep all drives and parking lots clean of dirt and debris. Use water trucks or hose down paved site to like new appearance.

B. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.

END OF SECTION

END OF SECTION

Breezewood Avenue Sidewalk Improvements

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

APPENDIX A

Drawings

PROJECT CONTACTS CITY OF FAYETTEVILLE	
Engineering	Byron Reeves, PE, CFM Assistant Public Services Director - Engineering 433 Hay Street, Fayetteville, NC 28301 (910) 433-1301 byronreeves@fayettevillenc.gov
Construction Management	Jeff Riddle, PLS Construction Manager 339 Alexander Street, Fayetteville, NC 28301 (910) 433-1661 jeffreyriddle@fayettevillenc.gov
Traffic Services	Brian McGill, PE, PTOE Assistant Public Services Director for Traffic Services 339 Alexander Street, Fayetteville, NC 28301 (910) 433-1170 brianmcgill@fayettevillenc.gov

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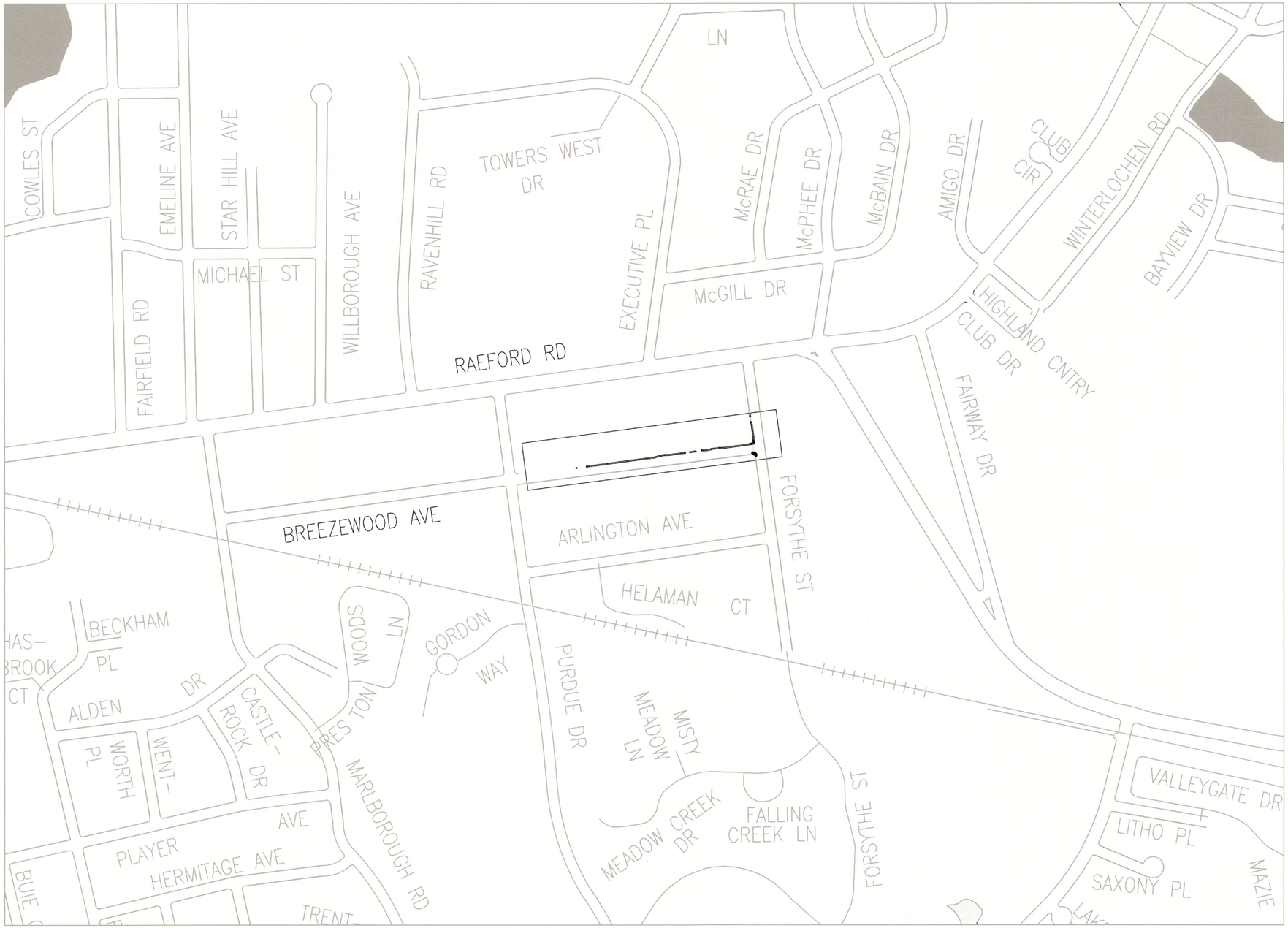
Know what's **below.**
Call before you dig.

FAYETTEVILLE NC
PUBLIC SERVICES

BREEZEWOOD AVENUE SIDEWALK

PROJECT SCOPE

**THIS PROJECT CONSISTS OF:
THE INSTALLATION OF ±820 LINEAR FEET
OF SIDEWALK ALONG THE NORTH SIDE
OF BREEZEWOOD AVENUE FROM
PURDUE DRIVE TO FORSYTHE STREET**



250 0 250 500
1 INCH = 250 FT

INDEX

SHEET	SHEET DESCRIPTION
1	COVER SHEET
2	LEGEND
3	GENERAL NOTES
4	PLAN (STA: 0+00 - 9+80)
5	CROSS SECTIONS
6	DETAILS
7	DETAILS

BREEZEWOOD AVENUE SIDEWALK

SHEET NUMBER 1 of 7
PLAN TYPE: COVER

FAYETTEVILLE NC
AMERICA'S CAN DO CITY
ENGINEERING DIVISION
PUBLIC SERVICES DEPARTMENT
433 HAY STREET, FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 CHRISTOPHER S. PIGHET
9-22-25

REVISIONS		
REV. #	DESCRIPTION	REV.BY DATE

DRAWN : C.PIGHET
CHECK : V.SMALL
APPROVED : J.TALIAN
DESIGN : C.PIGHET
SCALE : 1"=20'
DATE : 07/08/2026

ABBREVIATIONS

AL - AREA LIGHT
ASPH - ASPHALT
B/C - BACK OF CURB
BM - BENCHMARK
BFP - BACK FLOW PREVENTER
BLRD - BOLLARD
CB - CATCH BASIN
CP - CABLEVISION PEDESTAL
C&G - CURB AND GUTTER
C/L - CHAIN LINK
CMP - CORRUGATED METAL PIPE
CO - CLEANOUT
CONC - CONCRETE
CONST - CONSTRUCTION
CP - CONTROL POINT
CTR - CENTER
DB - DEED BOOK
DEPT - DEPARTMENT
DI - DROP INLET
DIP - DUCTILE IRON PIPE
DWA - DRIVEWAY ASPHALT
DWB - DRIVEWAY BRICK
DWC - DRIVEWAY CONCRETE
DWD - DRIVEWAY DIRT
DWG - DRIWEWAY GRAVEL
E - EAST/EASTING
EIP - EXISTING IRON PIPE
EIR - EXISTING IRON REBAR
EOP - EDGE OF PAVEMENT
ERB - EXISTING REBAR
ESMT - EASEMENT
EV - ELECTRICAL VAULT
F/C - FACE OF CURB
FES - FLARED END SECTION
FH - FIRE HYDRANT
FOB - FIBER OPTIC BURIED
FOM - FIBER OPTIC MARKER
FP - FLAG POLE
GV - GAS VALVE
GW - GUY WIRE
HDPE - HIGH DENSITY POLYETHYLENE
INV - INVERT
JB - JUNCTION BOX
LF - LINEAR FOOT
LOD - LIMITS OF DISTURBANCE
LP - LIGHT POLE
MAX - MAXIMUM
MB - MAILBOX
MHEL - MANHOLE ELECTRIC
MHSD - MANHOLE STORM DRAIN
MHSS - MANHOLE SANITARY SEWER
MHTP - MANHOLE TELEPHONE
N - NORTH/NORTHING
O.C. - ON CENTER
OHE - OVERHEAD ELECTRICAL
PC - POINT OF CURVATURE
PG - PAGE
PI - POINT OF INTERSECTION
PP - POWER POLE
PR - PROPOSED
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT
RCP - REINFORCED CONCRETE PIPE
R/W - RIGHT OF WAY
S- SOUTH
SC - SAWCUT
SD - STORM DRAIN
SIR - SET IRON REBAR
SS - SANITARY SEWER
STA - STATION
SWA - SIDEWALK ASPHALT
SWB - SIDEWALK BRICK
SWC - SIDEWALK CONCRETE
SY - SQUARE YARD
TC - TRASH CAN
TD - TRUNCATED DOME
TCE - TEMPORARY CONSTRUCTION EASEMENT
TCP - TERRA COTTA PIPE
TP - TELEPHONE PEDESTAL
TSB - TRAFFIC SIGNAL BOX
TYP - TYPICAL
U.O.N. - UNLESS OTHERWISE NOTED
UP - UTILITY POLE
W - WEST
WM - WATER METER
WV - WATER VAULT
X SECTION - CROSS SECTIONS

LEGEND

PROPOSED CONCRETE
PROPOSED CONCRETE CURB AND GUTTER
PROPOSED RIGHT-OF-WAY (R/W)
PROPOSED FENCE
PROPOSED UNDERGROUND GAS (GAS)
PROPOSED UNDERGROUND WATER (W)
PROPOSED SANITARY SEWER (SS)
PROPOSED STORM DRAIN (SD)
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
PROPOSED EASEMENT (PE)
SILT FENCE - LIMITS OF DISTURBANCE (SF)
PROPOSED SWALE (<)
PROPOSED TRUNCATED DOMES
PROPOSED SANITARY SEWER MAN HOLE
PROPOSED STORM SEWER MAN HOLE
PROPOSED ELECTRICAL MAN HOLE
PROPOSED TELEPHONE MAN HOLE
PROPOSED CATCH BASIN
PROPOSED DROP INLET
PROPOSED ELECTRICAL VAULT
PROPOSED WATER VAULT
PROPOSED WATER METER
PROPOSED SANITARY SEWER CLEAN OUT
PROPOSED POWER POLE
PROPOSED LIGHT POLE
PROPOSED FIRE HYDRANT
PROPOSED GATE WATER VALVE
PROPOSED GAS VALVE
PROPOSED TREE
PROPOSED SHRUB
PROPOSED INLET PROTECTION
PROPOSED FLAIRED END SECTION
PROPOSED HEADWALL

WETLANDS
EXISTING CONCRETE/SIDEWALK
EXISTING CONCRETE CURB AND GUTTER
EXISTING RIGHT-OF-WAY (R/W)
EXISTING FENCE
EXISTING UNDERGROUND GAS (GAS)
EXISTING UNDERGROUND WATER (W)
EXISTING SANITARY SEWER (SS)
EXISTING STORM SEWER (SD)
EXISTING FIBER OPTIC BURIED (FOB)
EXISTING UNDERGROUND ELECTRIC (UGE)
EXISTING OVERHEAD ELECTRIC (OHE)
EXISTING TELEPHONE CABLE (TEL)
EXISTING CABLEVISION (CTV)
EXISTING TRAIN TRACKS
EXISTING EASEMENT (EE)
EXISTING SWALE (<)
EXISTING SANITARY SEWER MAN HOLE
EXISTING STORM SEWER MAN HOLE
EXISTING ELECTRICAL MAN HOLE
EXISTING TELEPHONE MAN HOLE
EXISTING CATCH BASIN
EXISTING DROP INLET
EXISTING ELECTRICAL VAULT
EXISTING WATER VAULT
EXISTING WATER METER
EXISTING WELL
EXISTING SANITARY SEWER CLEAN OUT
EXISTING POWER POLE
EXISTING LIGHT POLE
EXISTING FIRE HYDRANT
EXISTING WATER VALVE
EXISTING GAS VALVE
EXISTING TRAFFIC SIGNAL BOX (TSB)
EXISTING FIBER OPTIC BOX (FOB)
EXISTING FIBER OPTIC MARKER (FOM)

EXISTING CONCRETE MONUMENT
EXISTING SURVEY CONTROL MARKER
EXISTING PROPERTY CORNER (EIR/ERB/SIR/EIP)
EXISTING MAILBOX
EXISTING TREE
EXISTING SHRUB
EXISTING FLAIRED END SECTION
EXISTING HEADWALL
EXISTING TELEPHONE PEDESTAL
EXISTING BACK FLOW PREVENTER

BREEZEWOOD AVENUE SIDEWALK

SHEET NUMBER 2 of 7
PLAN TYPE: LEGEND

FAYETTEVILLE
AMERICA'S CAN DO CITY
ENGINEERING DIVISION
ENGINEERING, SURVEYING AND PLANNING
433 HAY STREET, FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 CHRISTOPHER PIGHET
9-22-26
DATE

REVISIONS

REV. #	DESCRIPTION	REV.BY	DATE

DRAWN : C.PIGHET
CHECK : V.SMALL
APPROVED : J.TALIAN
DESIGN : C.PIGHET
SCALE : 1"=20'
DATE : 07/08/2026

GENERAL NOTES:

ACCESS TO SITES SHALL BE BY PUBLIC RIGHT-OF-WAYS AND UTILITY EASEMENTS. OTHER ACCESS LOCATIONS REQUIRED SHALL BE SECURED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. SUPPLEMENTAL EROSION CONTROL MEASURES SHALL BE REQUIRED TO INCLUDE CONSTRUCTION ENTRANCES, SILT FENCING, RESTORATION, ETC.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE CONSTRUCTION STAGING AREA AT HIS EXPENSE. A TEMPORARY USE PERMIT IS REQUIRED FOR THE STAGING AREA (ZONING 433-1705).

THE CONTRACTOR IS EXPECTED AND REQUIRED TO COOPERATE WITH THE PROPERTY OWNERS AFFECTED BY THE WORK. PRIVATE AGREEMENTS WITH PROPERTY OWNERS MUST BE IN WRITING ON A FORM APPROVED BY THE ENGINEER AND A COPY SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES AFFECTED BY SAID AGREEMENT. THE AGREEMENT MUST SPECIFY THAT THE CITY AND THE ENGINEER SHALL BE HELD HARMLESS AGAINST ALL CLAIMS ARISING FROM THE AGREEMENT. THE OWNER DISCOURAGES PRIVATE AGREEMENTS. BEFORE FINAL ACCEPTANCE, A RELEASE FROM EACH PROPERTY OWNER THAT THE CONTRACTOR MADE AN AGREEMENT WITH SHALL BE REQUIRED. THE PROPERTY OWNER'S RELEASE IS A CONDITION OF FINAL ACCEPTANCE.

CONTRACTOR SHALL MAINTAIN A NEAT AND CLEAN JOB-SITE TO INCLUDE STAGING/STORAGE AREAS AS FOLLOWS:

- PERFORM DUST CONTROL BY WATERING DAILY OR AS DIRECTED BY THE ENGINEER.
- SWEEP STREETS A MINIMUM OF ONCE WEEKLY (FRIDAY) OR AS DIRECTED BY THE ENGINEER.
- BLADE, LEVEL AND RE-COMPACT ALL EXPOSED TRENCHES WEEKLY (OR AS DIRECTED BY THE ENGINEER) TO PRODUCE A SMOOTH "RIDE".
- PERFORM DAILY CLEAN-UP OF ALL DIRT, DEBRIS AND SCRAP MATERIALS.
- REMOVE EXCESS EQUIPMENT, MATERIALS, TOOLS, ETC. NOT NEEDED.

CONTRACTOR SHALL PROVIDE MEASURES DURING CONSTRUCTION TO SECURE THE SITE AND EXCAVATION FROM THE GENERAL PUBLIC AND COMPLY WITH ALL OSHA REGULATIONS. JOB SITE SAFETY IS THE EXCLUSIVE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. OPEN EXCAVATION LEFT UNATTENDED OR OVER NIGHT IS NOT ACCEPTABLE AND SHALL BE FILLED IMMEDIATELY.

CONTRACTOR SHALL REPAIR OR REPLACE DRIVES DISTURBED BY CONSTRUCTION TO EXISTING OR BETTER CONDITIONS. NO SEPARATE PAYMENT UNLESS OTHERWISE INDICATED.

CONTRACTOR SHALL PROVIDE TEMPORARY FENCING WHERE FENCES ARE REMOVED FOR CONSTRUCTION. CONTRACTOR SHALL COORDINATE REMOVAL OF EXISTING FENCE AND INSTALLATION OF TEMPORARY FENCE WITH PROPERTY OWNER PRIOR TO CONSTRUCTION. REMOVAL OF TEMPORARY FENCE AND INSTALLATION OF PERMANENT FENCE MUST ALSO BE COORDINATED WITH PROPERTY OWNER. ALL REMOVAL, TEMPORARY, AND REPLACEMENT FENCING SHALL BE CONSIDERED INCIDENTAL TO THE CITY INSTALLATION AND NO SEPARATE PAYMENT SHALL BE MADE. CONTRACTOR SHALL REINSTALL ALL SHEDS, FENCES, ETC. TO AS GOOD OR BETTER THAN EXISTING CONDITIONS UNLESS OTHERWISE INDICATED. (NO SEPARATE PAYMENT).

CONTRACTOR SHALL REPLACE ALL DISTURBED MAILBOXES, SIGNS, ETC. DISTURBED DURING CONSTRUCTION WITHIN 24 HOURS OF DISTURBANCE. PERMANENT ROAD SIGNAGE DISTURBED SHALL BE REPLACED IMMEDIATELY AND IF NECESSARY ROADWAY SIGNS SHALL BE TEMPORARILY INSTALLED IN A LOCATION CONSISTENT WITH THE NCMUTCD TO PROVIDE CONTINUOUS TRAFFIC AWARENESS OF ROADWAY CONDITIONS. (NO SEPARATE PAYMENT).

CONTRACTOR SHALL PROVIDE SECURITY FENCING, SECURITY GUARD, AND ANY AND ALL OTHER MEASURES CONTRACTOR DEEMS NECESSARY TO PROTECT EQUIPMENT AND MATERIALS STORED ON THE PROJECT. (NO SEPARATE PAYMENT).

WHERE CONTRACTOR CEASES WORK OPERATION FOR A 72 HOUR PERIOD OR LONGER, SUCH AS HOLIDAYS, ETC., THE FOLLOWING SHALL BE ACCOMPLISHED PRIOR TO THE WORK STOPPAGE.

- CONTRACTOR WILL STORE ALL EQUIPMENT IN THE CONTRACTOR STAGING AREA OR OFF SITE.
- THE CONTRACTOR SHALL SWEEP ALL STREETS, PERFORM GENERAL CLEANUP AND SHALL PERFORM MAINTENANCE ON ALL EXPOSED PATCHES.

CONTRACTOR SHALL SCHEDULE WORK AND MATERIAL DELIVERIES SO THAT STORED MATERIAL QUANTITIES ON THE JOB SITE SHALL BE MINIMIZED.

CONTRACTOR SHALL STORE ALL MATERIALS IN THE CONTRACTOR STAGING AREA 72 HOURS PRIOR TO INCORPORATING INTO THE WORK TO REDUCE OBSTRUCTIONS TO TRAFFIC AND INCONVENIENCE TO RESIDENTS.

GENERAL NOTES FOR RESIDENT RELATIONS (MANDATORY):

THE CONTRACTOR IS REQUIRED TO DEVELOP GOOD RELATIONS WITH THE RESIDENTS WHICH INCLUDE THE FOLLOWING MANDATORY MINIMUM REQUREMENTS:

- NO SPEEDING WITH EQUIPMENT AND/OR VEHICLES (25 MPH MAX.)
- DO NOT BLOCK DRIVEWAYS AT ANY TIME
- DO NOT LITTER AT ANY TIME
- DO NOT USE RESIDENT'S WATER WITHOUT THEIR PERMISSION (SIGNED AGREEMENT REQUIRED)
- ALL PLUMBING CODE REQUIREMENTS FOR BACK FLOW PREVENTION WILL BE ADHERED TO
- RESPOND TO RESIDENT'S COMPLAINTS WITHIN 24 HOURS
- DO NOT USE ABUSIVE LANGUAGE, PROFANITY OR CAT-CALLING
- WEAR PROPER PROTECTIVE CLOTHING (HARD HATS, PROPER SHOES, SHIRTS, ETC.) AT ALL TIMES.
- MAINTAIN PROPER SAFETY MEASURES, PARTICULARLY ALONG OPEN TRENCHES, PLACING CONES ON RAISED MANHOLES AND BACK FILLING OPEN TRENCHES IF CONSTRUCTION IS STOPPED AND THE OPEN TRENCH IS NOT MANNED.
- PERSONNEL MUST WEAR CITY APPROVED SAFETY VEST AT ALL TIMES WHILE WORKING IN THE CITY AND/OR NCDOT RIGHT-OF-WAY
- ALL TRAFFIC CONTROL FLAG PERSONS AND AT LEAST ONE PERSON ON EACH WORK CREW MUST BE FLUENT IN THE ENGLISH LANGUAGE

IF THE CONTRACTOR AND/OR SUBCONTRACTORS CANNOT ADQUATELY PERFORM AND/OR COMPLY WITH THESE REQUIREMENTS, THE INDIVIDUAL, SUBCONTRACTOR, OR EMPLOYEES MAY BE DIRECTED TO LEAVE THE PROJECT PERMANENTLY. INCONSIDERATE, NON-COOPERATIVE ATTITUDES AND ACTIONS WILL NOT BE TOLERATED.

UTILITIES:

UTILITIES ARE ILLUSTRATED FOR INFORMATION PURPOSES ONLY. THE CITY OR ENGINEER WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF UTILITY LOCATIONS, SIZES, DEPTHS, OR FOR COMPLETENESS OF UTILITY INFORMATION SHOWN.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY AND MEET WITH ALL UTILITY OWNERS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY HIS OPERATIONS OR THOSE OF HIS AGENTS. THE CONTRACTOR SHALL HOLD THE CITY HARMLESS FOR ANY THIRD-PARTY INCONVENIENCE CREATED BY WORK OF HIS OWN FORCES OR THAT OF HIS AGENTS. ANY DAMAGES INCURRED SHALL BE THE CONTRACTORS FINANCIAL RESPONSIBILITY.

ADJUSTMENTS/RELOCATIONS WILL BE PERFORMED BY THE VARIOUS UTILITY OWNERS. THE CONTRACTOR SHALL COORDINATE WORK WITH UTILITY OWNERS SO AS NOT TO ADVERSELY AFFECT THE PROJECT SCHEDULE. THE CITY WILL NOT BE HELD RESPONSIBLE FOR ANY DELAYS OR DISRUPTIONS TO THE WORK SCHEDULE OF OTHER UTILITY OWNERS.

- FOR UTILITY LOCATES CALL NORTH CAROLINA ONE-CALL @ 811.
- FOR LOCATES OF UTILITIES NOT MEMBERS OF NORTH CAROLINA ONE-CALL CONTACT PROJECT MANAGER OR UTILITY COORDINATOR.

THE CONTRACTOR SHALL ADJUST ALL WATER VALVES, WATER METER BOXES AND WATER VAULTS TO FINISHED GRADE. WATER METERS, MANHOLES, AND CLEANOUTS LOCATED IN SIDEWALKS OR CONCRETE DRIVEWAYS SHALL BE INSTALLED IN ACCORDANCE WITH PWC REQUIREMENTS. NO ABOVE GROUND UTILITY BOXES, POWER POLE, OR OTHER STRUCTURES ARE TO BE LOCATED WITHIN THE SIDEWALK AREA. THE SIDEWALK AREA IS TO BE FREE OF OBSTACLES.

PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHT-OF-WAYS, THE CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE TO GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (i.e. GAS, FIBER OPTIC, ETC.).

THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).

STORM DRAINAGE REPAIRS BY CONTRACTOR DUE TO CONSTRUCTION DAMAGE AND JOINTS EXPOSED DURING CONSTRUCTION SHALL BE INSPECTED BY THE OWNER PRIOR TO BACKFILLING.

MAIL BOXES:

THE CONTRACTOR SHALL RELOCATE ALL MAIL BOXES AS REQUIRED BY SECTION 107-12 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. COORDINATE THIS WORK WITH THE U.S. POSTAL SERVICE.

TREES, SHRUBS, AND HEDGES:

ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED WITH TREE PROTECTION BARRIERS ACCEPTABLE TO THE CITY ARBORIST OR LANDSCAPE ARCHITECT. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY ARBORIST OR LANDSCAPE ARCHITECT PRIOR TO ROOT PRUNING. WHEN ROOT PRUNING IS ABSOLUTELY NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER OR OTHER APPROVED METHOD.

CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY PRIOR TO REMOVING ANY TREES. ALL TREES LOCATED WITHIN THE LOT THAT ARE TO REMAIN AFTER CONSTRUCTION SHALL BE INSPECTED BY THE CITY TO VERIFY THEY ARE SUITABLE TO REMAIN.

GRADING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BORROW MATERIAL REQUIRED TO CONSTRUCT PROJECT AS SHOWN ON THE CONTRACT DOCUMENTS.

ALL EXCAVATED MATERIALS THAT ARE NOT REQUIRED OR ARE UNSUITABLE FOR THE PROJECT SHALL BE CONSIDERED WASTE AND SHALL BE HAULED OFF SITE AND DISPOSED IN A SAFE AND LEGAL MANNER AT THE CONTRACTOR'S EXPENSE.

EROSION CONTROL:

CONTRACTOR SHALL NOT DISTURB ANY AREAS OUTSIDE OF THE DESIGNATED EASEMENT AREAS.

THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL DEVICES IN ACCORDANCE WIH THE APPROPRIATE CITY AND STATE EROSION AND SEDIMENT CONTROL ORDINANCES. THE CONTRACTOR SHALL PREVENT STANDING WATER DUE TO CONSTRUCTION.

SAWCUTS:

THE CONTRACTOR SHALL SAWCUT EXISTING ASPHALT AND/OR CONCRETE SURFACES PRIOR TO REMOVAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SAW CUT WIDTH SHALL BE 1 FOOT MINIMUM FOR THE EXISTING EDGE OF PAVEMENT. SAWCUT PAVEMENT SHALL BE REPLACED AS WELL AS ADDITIONAL PAVEMENT REQUIRED TO TIE-IN TO FACE OF PROPOSED CURB OR GUTTER.

STORM DRAINAGE STRUCTURE, PIPE & GRADING NOTES:

PIPE INVERT ELEVATIONS HAVE PRECEDENCE OVER SLOPES. HOWEVER, SLOPES SHALL NOT BE DECREASED FROM THOSE SHOWN ON PLAN WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

ALL STORM DRAINAGE PIPE TO BE CLASS III REINFORCED CONCRETE UNLESS OTHERWISE NOTED. PIPE LENGTHS INDICATED ON PLAN ARE APPROXIMATE ONLY.

NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, TRENCHING, OR OTHER LAND DISTURBING ACTIVITY SHALL BE PERMITTED BEYOND LIMITS OF GRADING WITHOUT PRIOR APPROVAL FROM THE OWNER AND CITY ENGINEERING DEPT.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE CITY OF FAYETTEVILLE ANY DISCREPANCIES FOUND BETWEEN ACTUAL CONDITION AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION FROM THE CITY INSPECTOR PRIOR TO PROCEEDING.

MANHOLE RIM ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE. NEW MANHOLE RING AND COVERS SHALL BE INSTALLED FLUSH WITH THE SURROUNDING GRADE SO AS TO AVOID DAMAGE TO MOTOR VEHICLES DURING CONSTRUCTION. THEY ARE TO BE ADJUSTED TO MATCH THE SURROUNDING PROPOSED GRADE PRIOR TO PLACING THE NEW SURFACE COURSE.

THE CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL ANY TRENCH STABILIZATION NECESSARY TO MAINTAIN EXCAVATION FOR PIPE AND DRAINAGE STRUCTURE INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND REMOVAL OF ANY TRENCH STABILIZATION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE INSTALLATION, REMOVAL OR ABSENCE OF TRENCH STABILIZATION.

GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE, AS DIRECTED BY THE ENGINEER. THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS. ALL PROPOSED GRADES ARE FINISH GRADES.

THE CONTRACTOR SHALL BACKFILL OPEN EXCAVATIONS AT THE END OF EACH WORKING DAY. AT DRAINAGE STRUCTURE LOCATIONS, THE EXCAVATION SHALL BE COVERED WITH METAL PLATES WHEN PRACTICAL OR COMPLETEY ENCLOSED WITH SAFETY NETTING.

STOCKPILING NOTE:

ANY ONSITE STOCKPILING IS TO BE COORDINATED AND APPROVED BY A CITY INSPECTOR. THE STOCKPILE WILL BE PROVIDED WITH GROUND COVER WITHIN 15 WORKING DAYS OF PROJECT COMPLETION.

EXCESS SUITABLE SOIL EXCAVATED DURING CONSTRUCTION SHALL BE STOCKPILED FOR USE ON THE PROJECT OR DISPOSED OF OFF-SITE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT BE ALLOWED TO STOCKPILE MATERIALS OR EXCESS MATERIALS IN THE STREET RIGHT-OF-WAYS AT ANY TIME UNLESS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT AND SUITABLE STOCKPILE AREA AND LOCATION AT THE CONTRACTOR'S EXPENSE.

ORDER OF PRECEDENCE GENERAL NOTES/TECHNICAL SPECIFICATIONS/PHOTOS:

THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS. IF CONFLICTS OCCUR BETWEEN THE TECHNICAL SPECIFICATIONS AND THE NOTES CONTAINED HEREIN, THE TECHNICAL SPECIFICATIONS SHALL SUPERSEDE.

NCDOT ENCROACHMENT SPECIAL PROVISIONS:

CONTRACTOR TO NOTIFY COUNTY MAINTENANCE ENGINEER, (910) 364-0602, A MINIMUM OF THREE (3) DAYS BEFORE CONSTRUCTION IS TO BEGIN.

AN EXECUTED COPY OF THE ENCROACHMENT AGREEMENT SHALL BE PRESENT AT THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO STOP ALL WORK UNLESS EVIDENCE OF APPROVAL CAN BE SHOWN.

SEE THE ENCROACHMENT AGREEMENT FOR A FULL LIST OF SPECIAL PROVISIONS.

TRAFFIC CONTROL

CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS FOR WORK ZONE TRAFFIC CONTROL TO CITY TRAFFIC SERVICES DEPARTMENT (910-433-1660) FOR CITY STREETS AND DIVISION 6, DISTRICT 2 (910-364-0601) FOR NCDOT STREETS. CONTRACTOR SHALL NOT PLACE ANY TRAFFIC CONTROL DEVICES WITHOUT HAVING APPROVAL FROM APPLICABLE TRANSPORTATION DEPARTMENT EITHER NCDOT OR THE CITY OF FAYETTEVILLE.

CONTRACTOR SHALL INSURE ACCESS TO ALL PROPERTIES BY PROPERTY OWNERS AT ALL TIMES.

CONTRACTOR SHALL NOTIFY CITY ENGINEERING OFFICE ONE WEEK IN ADVANCE OF ANY ROAD CLOSING AND COORDINATE ALL ROAD CLOSINGS/UTILITY INTERRUPTIONS WITH PROPERTY OWNERS AFFECTED 48 HOURS PRIOR TO CLOSING/INTERRUPTING SERVICES.

MINIMUM ONE WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS ROAD CLOSURE IS APPROVED BY CITY OF FAYETTEVILLE TRAFFIC SERVICES DEPARTMENT IN WRITING, 5 DAYS IN ADVANCE OF ROAD CLOSURE. AN APPROVED DETOUR PLAN PREPARED BY THE CONTRACTOR SHALL BE REQUIRED AND THE MEASURES INSTALLED PRIOR TO CLOSURE.

CONTRACTOR SHALL COORDINATE/NOTIFY TRAFFIC SERVICES DAILY (BEFORE 2:00 P.M.) AS TO WHICH STREETS WILL BE UNDER CONSTRUCTION IMPEDING TRAFFIC FLOW THE FOLLOWING DAY.

THE CONTRACTOR SHALL NOT IMPEDE TRAFFIC AT ANY TIME UNTIL THE APPROVED TRAFFIC CONTROL DEVICES ARE IN PLACE.

ALL TRAFFIC CONTROL MEASURES, DEVICES, INSTALLATION, METHODS, SEQUENCING AND PLANS SHALL BE IN STRICT ACCORDANCE WITH MUTCD, NCDOT, AND CITY OF FAYETTEVILLE TRAFFIC SERVICES.

BREEZEWOOD AVENUE SIDEWALK

PLAN TYPE: GEN. NOTES

SHEET NUMBER 3 of 7

FAYETTEVILLE NC
AMERICA'S CAN DO CITY
ENGINEERING DIVISION
PUBLIC SERVICES DEPARTMENT
433 HAY STREET FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 BRANDON S. MCINNIS
8-22-26

REVISIONS

REV. #	DESCRIPTION	REV.BY	DATE

DRAWN : C.PIGHET
CHECK : V.SMALL
APPROVED : J.TALIAN
DESIGN : C.PIGHET
SCALE : 1"=20'
DATE : 07/08/2025

SOD INSTRUCTION:

- FROM STA 1+50 TO STA 4+95, SOD 2.5 FT BEHIND PROPOSED SIDEWALK. SEE EC-7 AND SD-12.
- FROM STA 4+76 TO STA 6+03, SOD UTILITY STRIP. SEE EC-7 AND SD-12.

CLEARING AND GRUBBING:

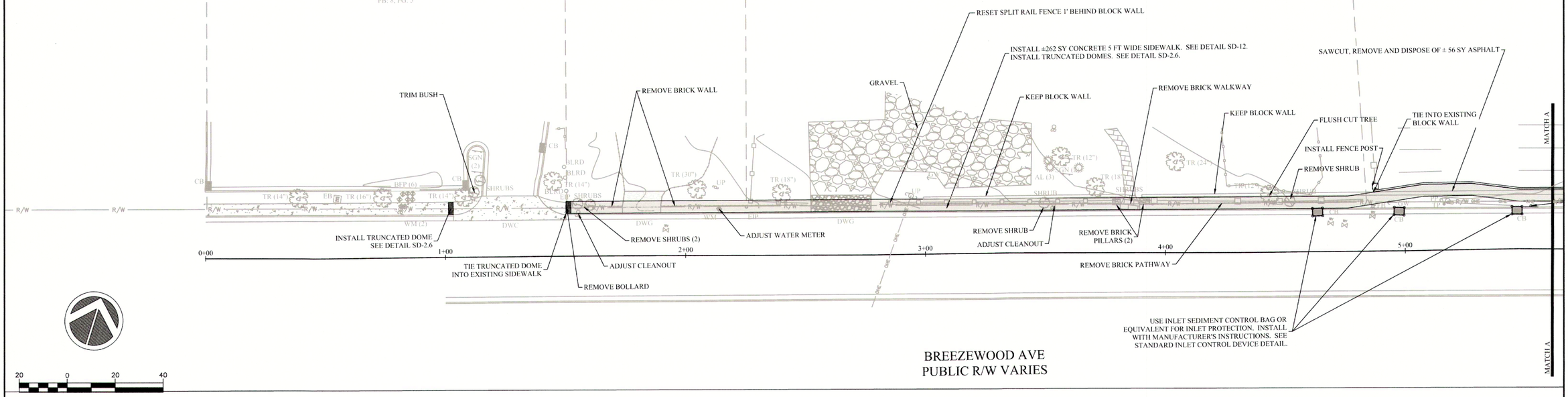
- ALL TREES WITHIN 3.0' PROPOSED SIDEWALK PATH IS CONSIDERED CLEARING AND GRUBBING.

0427-21-9272
2800 BREEZEWOOD AVE
ROSCOE PROPERTIES LLC
DB: 7999, PG: 152
PB: 8, PG: 5

0427-31-0282
2772 BREEZEWOOD AVE
BRESWITZ PROPERTIES LLC
DB: 4294, PG: 417
PB: 8, PG: 5

0427-31-2254
2770 BREEZEWOOD AVE
WOOTEN RENTALS LLC
DB: 7266, PG: 64
PB: 8, PG: 5

0427-31-3430
2629 RAEFORD RD
WOOTEN RENTALS LLC
DB: 7266, PG: 64
PB: 8, PG: 5



BREEZEWOOD AVE
PUBLIC R/W VARIES

20 0 20 40
1 INCH = 20 FT

SOD INSTRUCTION:

- FROM STA 6+50 TO STA 7+55, SOD UTILITY STRIP AND 2.5 FT BEHIND PROPOSED SIDEWALK AND RAMP. SEE EC-7 AND SD-12.
- FROM STA 7+90 TO STA 9+61, SOD UTILITY STRIP AND 3.0 FT BEHIND PROPOSED SIDEWALK AND RAMP ON NORTH SIDE OF BREEZEWOOD AVENUE AND FORSYTHE STREET. SEE EC-7 AND SD-12.
- FROM STA 9+40 TO STA 9+56, SOD 3.0 FT BEHIND PROPOSED SIDEWALK AND RAMP ON SOUTH SIDE OF BREEZEWOOD AVENUE. SEE EC-7 AND SD-12.

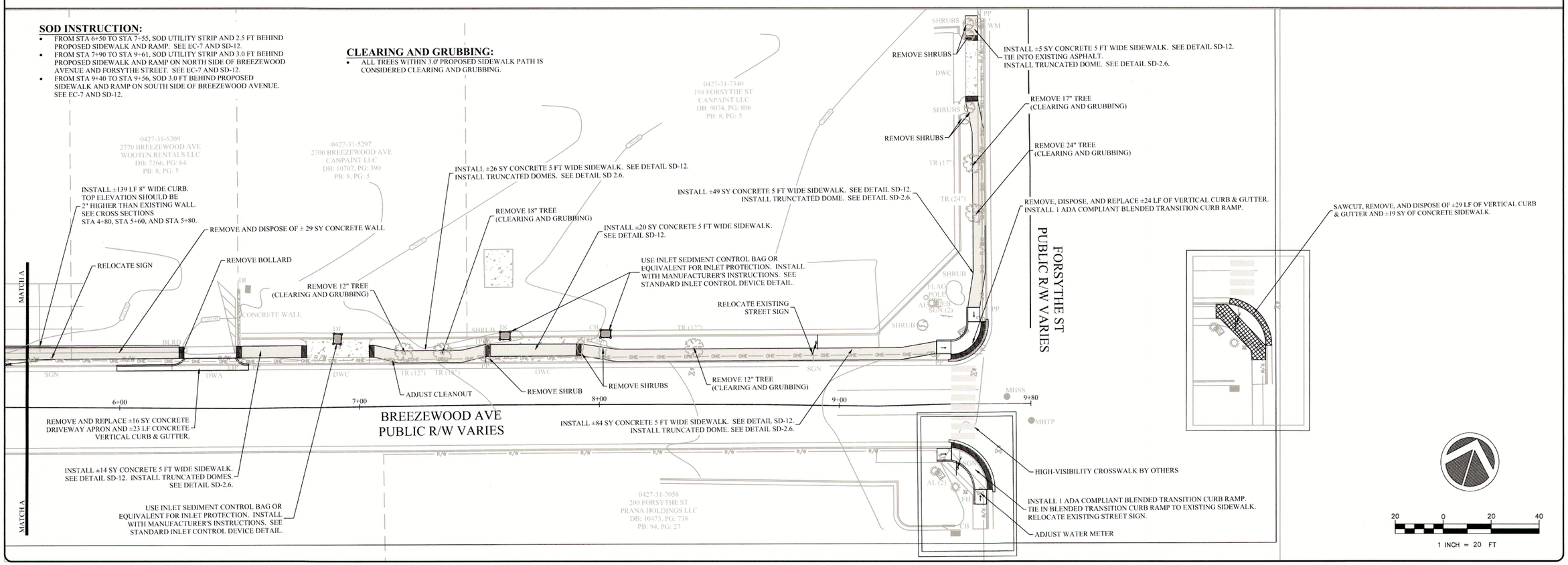
CLEARING AND GRUBBING:

- ALL TREES WITHIN 3.0' PROPOSED SIDEWALK PATH IS CONSIDERED CLEARING AND GRUBBING.

0427-31-5209
2770 BREEZEWOOD AVE
WOOTEN RENTALS LLC
DB: 7266, PG: 64
PB: 8, PG: 5

0427-31-5297
2700 BREEZEWOOD AVE
CANPAINT LLC
DB: 10707, PG: 390
PB: 8, PG: 5

0427-31-7340
198 FORSYTHE ST
CANPAINT LLC
DB: 9074, PG: 806
PB: 8, PG: 5



BREEZEWOOD AVE
PUBLIC R/W VARIES

20 0 20 40
1 INCH = 20 FT

BREEZEWOOD AVENUE SIDEWALK

PLAN TYPE: PLAN

SHEET NUMBER 4 of 7

FAYETTEVILLE
AMERICA'S CAN DO CITY

ENGINEERING DIVISION
PUBLIC SERVICES DEPARTMENT
433 HAY STREET FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 JAMES T. TALIAN

9-22-25

REV. #	REVISIONS DESCRIPTION	REV.BY DATE

DESIGN : C.PIGHET	SCALE : 1"=20'	DATE : 07/08/2026
DRAWN : C.PIGHET	CHECK : V.SMALL	APPROVED : J.TALIAN

10 0 10 20
1 INCH = 10 FT

BREEZEWOOD AVENUE
SIDEWALK

PLAN TYPE: X SECTIONS

SHEET NUMBER 5 of 7

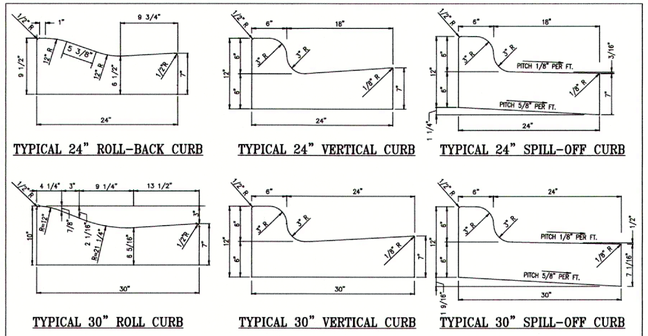
FAYETTEVILLE
AMERICA'S CAN DO CITY

ENGINEERING DIVISION
PUBLIC SERVICES DEPARTMENT
433 HAY STREET FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 JAMES T. ITALIAN
9-22-26

REV.#	DESCRIPTION	REV.BY	DATE
	REVISIONS		

DRAWN : C.PIGHET	CHECK : V.SMALL	APPROVED : J.ITALIAN
DESIGN : C.PIGHET	SCALE : 1"=20'	DATE : 07/08/2026

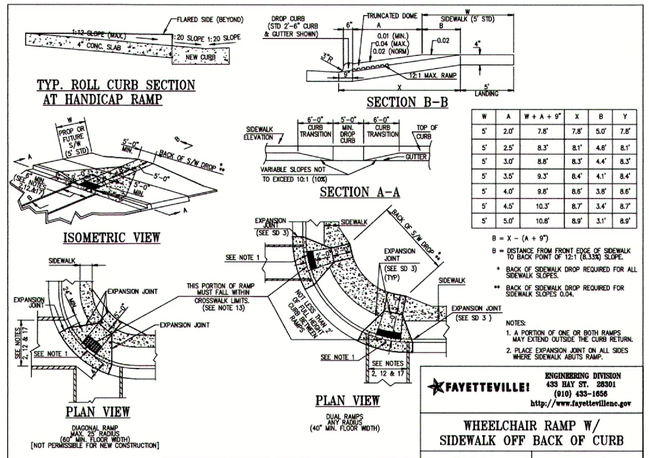


NOTES
1. ALL CURBS CONSTRUCTED OF 2500 PSI CONCRETE.
2. PLACE GROOVE JOINTS 1" DEEP AT 12'-6" INTERVALS BETWEEN EXPANSION JOINTS.
3. CURB SHALL BE DEPRESSED AT INTERSECTIONS TO PROVIDE FOR FUTURE ACCESSIBLE RAMPS.
4. TOP 6" OF SUBGRADE BENEATH THE CURB AND GUTTER SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.
5. ADOPTED FROM NCDOT STANDARD NO. 846.01

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24" AND 30" CURB DETAILS

Not to Scale | Review Date: JULY 2024 | SD-1



W	A	W + A + 9"	X	B	Y
5'	2.0'	7.8'	7.8'	5.0'	7.8'
5'	2.5'	8.3'	8.1'	4.8'	8.1'
5'	3.0'	8.8'	8.3'	4.4'	8.3'
5'	3.5'	9.3'	8.4'	4.1'	8.4'
5'	4.0'	9.8'	8.6'	3.8'	8.6'
5'	4.5'	10.3'	8.7'	3.4'	8.7'
5'	5.0'	10.8'	8.9'	3.1'	8.9'

B = X - (A + 9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

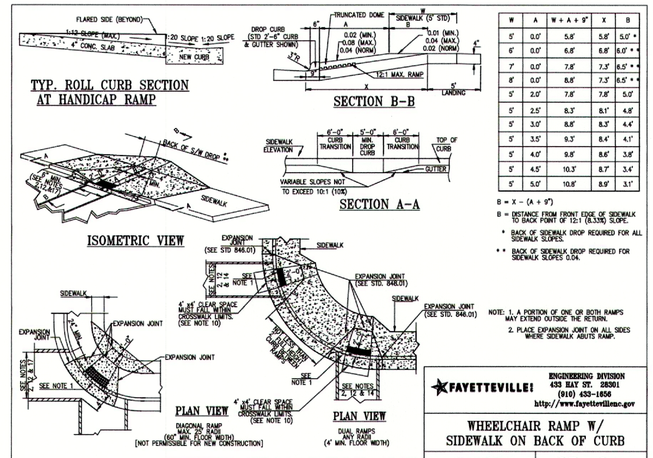
NOTES:
1. A PORTION OF ONE OR BOTH RAMPS MAY EXTEND OUTSIDE THE CURB RETURN.
2. PLACE EXPANSION JOINT ON ALL SIDES WHERE SIDEWALK ABUTS RAMP.

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.

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WHEELCHAIR RAMP W/ SIDEWALK OFF BACK OF CURB

Not to Scale | Review Date: JULY 2024 | SD-2



W	A	W + A + 9"	X	B
5'	0.0'	5.8'	5.8'	5.0' *
6'	0.0'	6.8'	6.8'	6.0' *
7'	0.0'	7.8'	7.3'	6.5' * *
8'	0.0'	8.8'	7.3'	6.5' * *
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X - (A + 9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

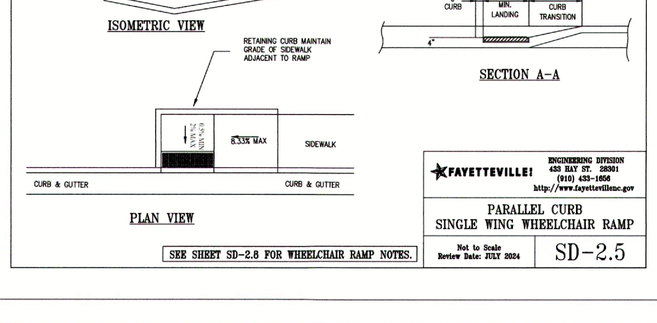
NOTE: 1. A PORTION OF ONE OR BOTH RAMPS MAY EXTEND OUTSIDE THE RETURN.
2. PLACE EXPANSION JOINT ON ALL SIDES WHERE SIDEWALK ABUTS RAMP.

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.

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WHEELCHAIR RAMP W/ SIDEWALK ON BACK OF CURB

Not to Scale | Review Date: JULY 2024 | SD-2.1

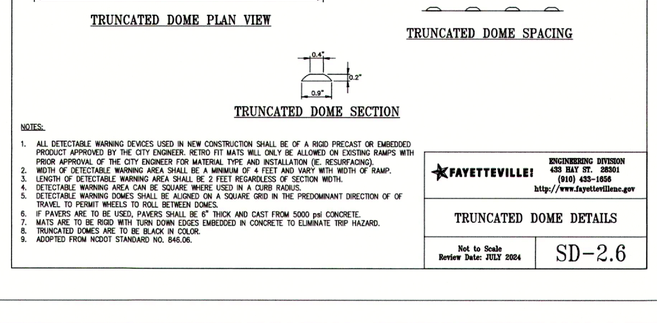


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DETAIL OF MID-BLOCK PARALLEL CURB WHEELCHAIR RAMP

Not to Scale | Review Date: JULY 2024 | SD-2.2

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.



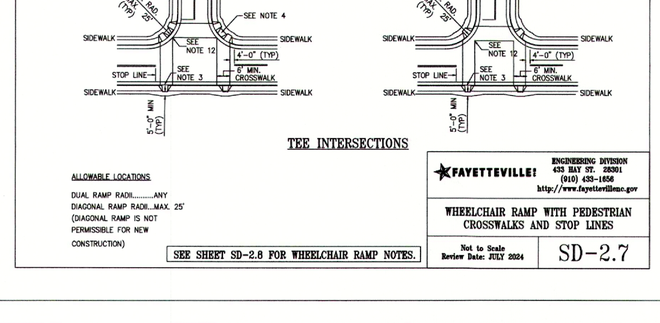
NOTE: WHEN DUAL PARALLEL RAMPS ARE BEING PLACED, A 4' LANDING SHALL BE INSTALLED BETWEEN THE TWO RAMPS.

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DETAIL OF PARALLEL CURB WHEELCHAIR RAMP

Not to Scale | Review Date: JULY 2024 | SD-2.3

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.



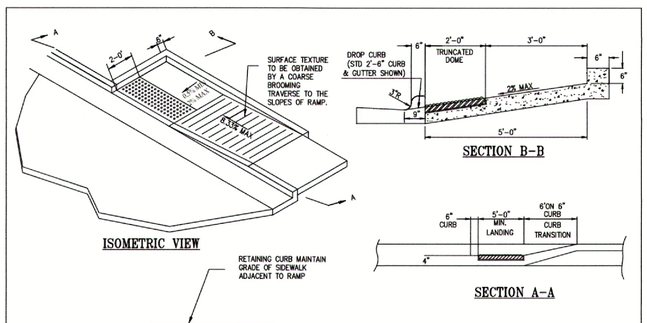
NOTE:
IF THE DISTANCE BETWEEN THE ROADWAY AND THE RAMP IS LESS THAN 5', THEN TRUNCATED DOMES SHALL BE INSTALLED AS SHOWN IN PLAN VIEW 'A'. WHEN THE DISTANCE IS GREATER THAN 5', TRUNCATED DOMES SHALL BE INSTALLED AS SHOWN IN PLAN VIEW 'B'.

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DIRECTIONAL CURB RAMP

Not to Scale | Review Date: JULY 2024 | SD-2.4

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.

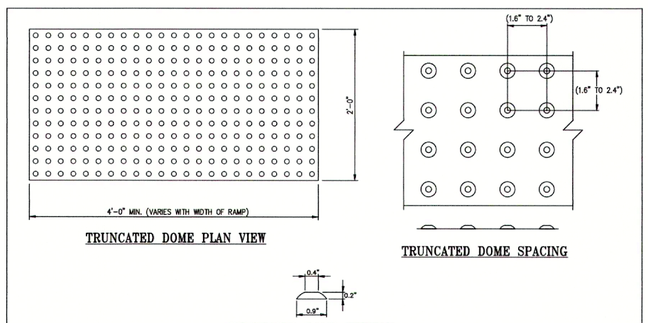


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PARALLEL CURB SINGLE WING WHEELCHAIR RAMP

Not to Scale | Review Date: JULY 2024 | SD-2.5

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.

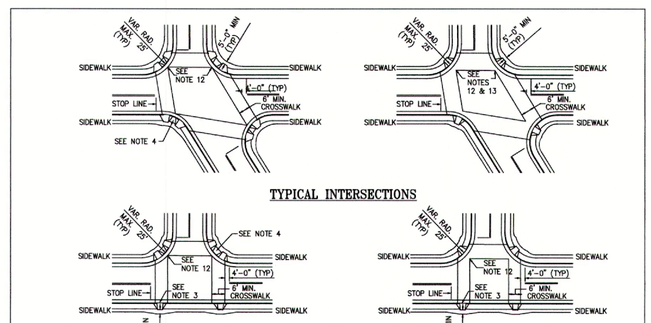


NOTES:
1. ALL DETECTABLE WARNING DEVICES USED IN NEW CONSTRUCTION SHALL BE OF A RIGID PRECAST OR EMBEDDED PRODUCT APPROVED BY THE CITY ENGINEER. RETRO FIT MATS WILL ONLY BE ALLOWED ON EXISTING RAMPS WITH PRIOR APPROVAL OF THE CITY ENGINEER FOR MATERIAL TYPE AND INSTALLATION (IE. RESURFACING).
2. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
3. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
4. DETECTABLE WARNING AREA CAN BE SQUARE WHERE USED IN A CURB RADIUS.
5. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
6. IF PAVERS ARE TO BE USED, PAVERS SHALL BE 6" THICK AND CAST FROM 5000 psi CONCRETE.
7. MATS ARE TO BE RIGID WITH TURN DOWN EDGES EMBEDDED IN CONCRETE TO ELIMINATE TRIP HAZARD.
8. TRUNCATED DOMES ARE TO BE BLACK IN COLOR.
9. ADOPTED FROM NCDOT STANDARD NO. 846.06.

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TRUNCATED DOME DETAILS

Not to Scale | Review Date: JULY 2024 | SD-2.6



ALLOWABLE LOCATIONS

DUAL RAMP RADII....ANY
DIAGONAL RAMP RADII...MAX. 25'
(DIAGONAL RAMP IS NOT PERMISSIBLE FOR NEW CONSTRUCTION)

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WHEELCHAIR RAMP WITH PEDESTRIAN CROSSWALKS AND STOP LINES

Not to Scale | Review Date: JULY 2024 | SD-2.7

SEE SHEET SD-2.8 FOR WHEELCHAIR RAMP NOTES.

BREEZEWOOD AVENUE SIDEWALK

PLAN TYPE: DETAILS

SHEET NUMBER: 6 of 7

FAYETTEVILLE
AMERICA'S CAN DO CITY
ENGINEERING DIVISION
PUBLIC SERVICES DEPARTMENT
433 HAY STREET, FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 ENGINEERING SERVICES
9-22-26

REV. #	DESCRIPTION	REV BY	DATE
	REVISIONS		

DESIGN : C.PICHET
DRAWN : C.PICHET
CHECK : V.SMALL
APPROVED : J.TALIAN
SCALE : 1"=20'
DATE : 07/08/2026

1. DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK OF DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

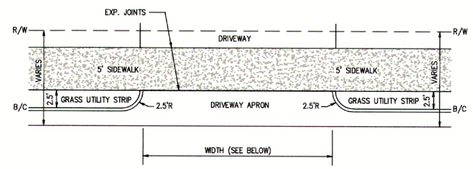
   IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1, 1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.

   THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES. COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
4. PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED NOT LESS THAN 2 FEET OF FULL HEIGHT CURB SHALL BE PLACED BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
5. PAY FOR ALL VARIABLE DEPTH CONCRETE USED FOR CONSTRUCTION OF WHEELCHAIR RAMPS AS CONCRETE WHEELCHAIR RAMPS AS DESCRIBED ON PROJECT SPECIFICATIONS.
6. PAY FOR ALL DEPRESSED CURBS AT WHEELCHAIR RAMPS AS THE TYPE CURB AND GUTTER USED ADJACENT TO DEPRESSED CURB. (LN. FT.)
7. SUCH PRICES AND PAYMENTS WILL BE CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE WORK.
8. DO NOT EXCEED 0.08 (1:12) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
9. CONSTRUCT WHEELCHAIR RAMPS 48" (ADA STANDARD) OR GREATER FOR DUAL RAMPS.
10. USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
11. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON SD-2.
12. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 17)
13. COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24" OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
14. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
15. USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL. STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
16. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
17. PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.
18. ADOPTED FROM NCDOT STANDARD NO. 846.06

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WHEELCHAIR RAMP NOTES

Not to Scale Review Date: JULY 2024 | SD-2.8



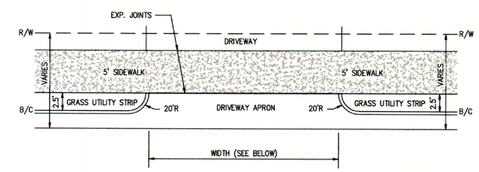
DRIVEWAY APRON
12'(MIN) WIDTH
24'(MAX) WIDTH (DOUBLE)
4" THICK(MIN) CONCRETE

NOTE: DISTANCE FROM B/C TO R/W VARIES ON DIFFERENT STREETS.

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TYPICAL RESIDENTIAL DRIVEWAY APRON

Not to Scale Review Date: JULY 2024 | SD-9



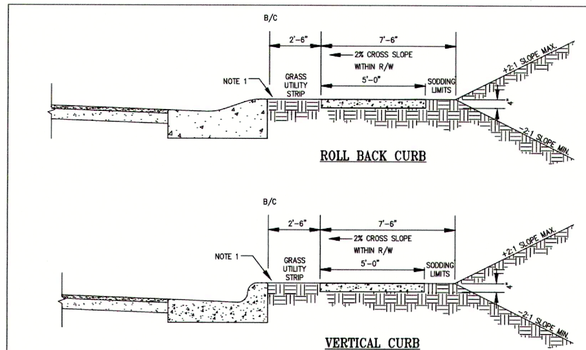
DRIVEWAY APRON
20'(MIN) WIDTH
36'(MAX) WIDTH (DOUBLE)
6" THICK(MIN) CONCRETE

NOTE: DISTANCE FROM B/C TO R/W VARIES ON DIFFERENT STREETS.

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TYPICAL COMMERCIAL DRIVEWAY APRON

Not to Scale Review Date: JULY 2024 | SD-9.1



ROLL BACK CURB

VERTICAL CURB

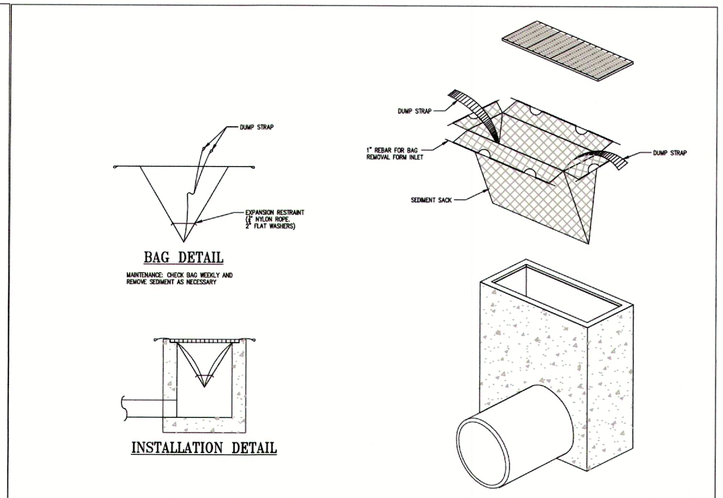
NOTES:

1. VERTICAL CURB - GRASS UTILITY STRIP MAY BE REMOVED UPON APPROVAL OF THE CITY ENGINEER. IF NO GRASS UTILITY STRIP, INSTALL 1/2" EXPANSION JOINT MATERIAL BETWEEN BACK OF CURB AND SIDEWALK.
2. PLACE CONTRACTION JOINTS AT 5' INTERVALS, EXCEPT THAT A 30' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
3. SEE DETAIL SD-9 TYPICAL RESIDENTIAL DRIVEWAY APRON AND DETAIL SD-9.1 TYPICAL COMMERCIAL DRIVEWAY APRON.
4. SODDING LIMITS INCLUDE THE GRASS UTILITY STRIP BETWEEN THE BACK OF CURB AND THE SIDEWALK AS WELL AS 2'6" BEYOND THE SIDEWALK.
5. SEE TECHNICAL SPECIFICATION SECTION 00455, PART 3, SUB-SECTION 3.02, SUB-PART F.

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TYPICAL SIDEWALK SECTION & SODDING LIMITS

Not to Scale Review Date: JULY 2024 | SD-12



EFFECTIVE: 01/05/17

STANDARD INLET SEDIMENT CONTROL DEVICE

DETAIL SHEET 1 OF 1

BREEZEWOOD AVENUE SIDEWALK

PLAN TYPE: DETAILS

SHEET NUMBER 7 of 7

FAYETTEVILLE AMERICA'S CAN DO CITY

ENGINEERING DIVISION
DEVELOPMENT SERVICES DEPARTMENT
433 HAY STREET, FAYETTEVILLE, NC 28301

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 57101 JAMES M. ITALIAN

12-22-25

REVISIONS		
REV. #	DESCRIPTION	REV.BY DATE

DRAWN : C.PIGHET
CHECK : V.SMALL
APPROVED : J.ITALIAN
DESIGN : C.PIGHET
SCALE : 1"=20'
DATE : 07/08/2026

Breezewood Avenue Sidewalk Improvements

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

APPENDIX B

City of Fayetteville Technical Specifications

FAYETTEVILLE NC

PUBLIC SERVICES



TECHNICAL SPECIFICATIONS

JULY 2026

Engineering Division
433 Hay Street
Fayetteville, NC 28301-5537

(910) 433-1656
www.fayettevillenc.gov

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SECTION 00127

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 up to 100% may be authorized by the Engineer above what is indicated in the Bid Form, after 100% increase the contract unit price will be negotiated only by a Change Order as required by the Contract Documents. Revised contract unit prices pertaining to quantity increases will be applicable only to that portion of the overrun in excess to the percentages stated above.

B. A final adjusting Change Order may be made for adjustment of the actual quantities installed prior to submittal of the final pay request.

1.04 GENERAL BID ITEMS

A. Items with a "(X)" in the title of the bid items represents the size or depth as indicated on the Bid Form.

B. Method of measurement for the individual Bid Items shall be as specified in each section.

C. Payment for each item shall be in accordance with the Contract Unit Price times the number of units installed in accordance with the Contract Documents.

D. Work for each bid item shall include, but not be limited to, the work listed in each execution section of the bid item and the labor, materials, equipment, and services required and reasonably implied by the Contract Documents for a complete installation.

E. Administrative cost including, but not limited to, video and photographic records, coordination of construction activities (including but not limited to updating master construction schedule, providing weekly tasks schedule, coordination with owner, engineer, utility providers, permitting agencies, property owners, etc.), as-built documentation, and office administration for the Project construction shall be included in the individual unit price items. If a Contractor elects to use a trailer, it is at no cost to the Owner.

F. Unit prices will be listed in each section unless otherwise specified.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 00127

SECTION 00132

PROJECT MANAGEMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
   1. Project Management.
   2. Coordination.
   3. Administrative and supervisory personnel.
   4. General installation provisions.
   5. Cleaning and protection.

1.02 GENERAL COORDINATION REQUIREMENTS

A. Responsibilities of Contractor:
   1. Coordinate construction activities for the Project to assure efficient and proper installation of each part of the Work.
   2. Where availability of space is limited, coordinate installation of components to assure maximum accessibility for maintenance. Make adequate provisions to accommodate components scheduled for later installation.
   3. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings. A copy of all memoranda shall be submitted to the Engineer.

1.03 ADMINISTRATIVE

A. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Installation and removal of temporary facilities.
   3. Delivery and processing of submittals.
   4. Progress meetings.
   5. Installation meetings.
   6. Project Close-out activities.
   7. Payment Applications.

B. Project Meetings: A Pre-construction conference shall be held prior to the beginning of the Work. Construction progress meetings shall be held monthly. Project close-out conference shall be held during the final phases of the Work. The Engineer (Or Designee) may schedule additional meetings. The location of meetings is to be determined by the Engineer. The Contractor's project superintendent shall attend meetings. Suppliers and subcontractors will be notified to attend meetings as appropriate or as required by the Engineer. The Contractor shall schedule pre-installation conferences as required in the individual specification sections and shall notify the Engineer of project meetings scheduled by the Contractor. The Engineer will schedule and administer meetings throughout the progress of the Work, except for meetings held by the Contractor for normal coordination of the Work. The meeting agenda shall include, but not be limited to, the following: Project Administration, Submittals,

Construction Schedules and Methods, Safety and Health Regulations, Project Coordination, Payment Application, Change Orders, and Site Inspections. Engineer will prepare an agenda with copies to participants, preside at meetings, prepare minutes, and distribute to participants for meetings scheduled by the Engineer.

C. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

D. Salvage materials and equipment involved in the performance of, but not actually incorporated in, the Work. Refer to other sections for disposition of salvaged materials that are designated as Owner's property.

1.04 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 a set of Record Documents indicating changes during construction as required in Section, Submittal Procedures.

D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and final amount due.

E. Submit the following with final Application for Payment: (As Applicable)
1. Release of Claims
2. Consent of Surety for Final Payment
3. Final Certified Payroll Information
4. 1 Year Labor Warranty
5. Sales Tax Use Form (with invoices)

F. Submit warranties as required by individual equipment specifications.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 00132

SECTION 00133

ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

B. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is evaluated. If necessary, additional requirements will be issued by Change Order.

C. Types of allowance include the following:

1.02 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise the Owner of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the work.

B. At the Owner's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the work.

C. Purchase products and systems selected by the Owner from the designated supplier.

1.03 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.04 CONTINGENCY ALLOWANCES

A. Use the allowance(s) only as directed for the Owner's purposes.

B. Change Orders authorizing use of funds from the allowance(s) will include Contractor's related cost and maximum fifteen (15) percent combined overhead and profit. (7.5% overhead plus 7.5% profit).

1.05 UNUSED MATERIALS

A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

B. When requested by the Owner, prepare unused material for storage where it is not economically practical to return the material for credit. When directed by the Owner, deliver unused material to the Owner's storage space. Otherwise, disposal of unused material is the Contractor's responsibility.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine products covered by an allowance promptly upon delivery for damage or defects.

3.02 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION 00133

SECTION 00150

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Electricity, lighting, telephone service, water, and sanitary facilities.

B. Work on public right-of-way.

C. Traffic control.

D. Temporary Controls: Barriers, enclosures and fencing, water control, dust control, erosion and sediment control, and protection of the work.

E. Construction Facilities: Access roads, parking, project cleaning, project signage, and field offices.

F. Removal of Utilities, Facilities, and Controls

1.02 TEMPORARY UTILITIES

A. Electricity
   1. Provide and pay for required power service for construction from Utility source.

B. Lighting
   1. Provide and maintain lighting for construction operations as required by Contractor.
   2. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes as required by Contractor.

C. Telephone Service
   1. Provide, maintain, and pay for telephone service to field office as required by Contractor.

D. Water
   1. Provide, maintain, and pay for suitable quality water, including any necessary service(s) required for construction operations. Exercise measures to conserve water during construction.

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.

1.03 WORK ON PUBLIC RIGHTS-OF-WAY

A. Work on this Project is along rights-of-way under jurisdiction of the following offices:
   1. NCDOT Division 6, District 2, District Engineer
   2. City of Fayetteville

B. Work shall comply with requirements of the Encroachment Agreement(s) and Driveway Permit as attached to Project Supplementary Conditions.

C. Post necessary bonds as required.

D. Prior to start of Work notify the Office of the NCDOT as indicated in the encroachment agreement and driveway permit. Also notify the Owner.

E. Work shall conform to the requirements and be subject to the approval of the above agency (ies).

F. Contractor shall be responsible to the Owner for the cost of all DOT inspections that are billed to the Owner by the NCDOT as indicated in the Special Provisions of the Encroachment Agreement.

G. Submit letter to the above District Engineer(s) when work is complete as required by the Encroachment Agreement.

H. Submit letter of approval for completed Work from the above agency(ies) with Final Payment Request.

I. Clean right-of-way as work progresses and daily.

J. Power broom existing pavement as work progresses.

K. Work shall be in accordance with the latest edition of the *N.C. Division of Highways, "Policies and Procedures for Accommodating Utilities on Highway Right-of -Way" and City of Fayetteville standards*.

L. Consult with the above agency(ies) in establishing public thoroughfares to be used for haul routes and site access. Truck route permit and bond may be required.

M. Confine construction traffic to designated haul routes.

N. Provide traffic control along haul routes to regulate traffic and to minimize interference with public.

O. Provide and maintain access to fire hydrants, free of obstructions.

1.04 TRAFFIC CONTROL

A. On public and private road right-of-way provide traffic control devices when construction encroaches within the right-of-way. Devices shall include, but not be limited to, cones, drums, flares, warning signs, temporary pavement marking, warning lights, and flagman.

B. Traffic control devices shall provide the following:
   1. Protection of motorists, pedestrians, and workers from accident hazards.
   2. Advance public information of proposed work sites.
   3. Establishment of an orderly and safe flow of traffic and to minimize traffic congestion.
   4. Provision of access for emergency vehicles.

C. Traffic control devices shall be used in accordance with the latest edition of the *NCDOT Standard Drawings and "Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)*."

D. Provide personnel trained and certified in traffic control, as required by NCDOT and City of Fayetteville.

1.05 TEMPORARY CONTROLS

A. General
   1. Temporary controls shall be the responsibility of each Contractor for their respective work unless noted otherwise.

B. Barriers
   1. Provide barriers to prevent unauthorized entry to construction areas for the safety of the public, the protection of the work, and to protect existing facilities and adjacent properties from damage from construction operations.

2. Provide barricades required by agency in 1.03A of this section for public rights-of-way and for public access to existing buildings.
3. Provide protection for plant life designated to remain. Replace damaged plant life.
4. Protect vehicular traffic, stored materials, site, and structures from damage.

C. Water Control
1. Grade site to drain. Provide, operate, and maintain pumping equipment to maintain excavations free of water.
2. Protect site from running water.

D. Dust Control
1. Execute Work by methods designed to minimize raising dust from construction operations.
2. Provide positive means to prevent airborne dust from dispersing into atmosphere.

E. Erosion and Sediment Control
1. Provide Erosion and Sediment Control as indicated on the approved Drawings and Specifications and as required by NCDEQ.

F. Protection of Installed Work
1. Protect installed Work and provide special protection where specified in individual specification Sections.
2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
3. Prohibit traffic from landscaped areas.

1.06 CONSTRUCTION FACILITIES

A. General
1. Construction facilities shall be the responsibility of each Contractor for their respective work unless noted otherwise.

B. Access Roads
1. Contractor shall construct and maintain temporary drives as necessary to access public thoroughfares and existing drives to serve the construction area.
2. Provide means of removing mud from vehicle wheels before entering streets.

C. Parking
1. When site space is not adequate, arrange for temporary off-site surface parking areas to accommodate construction personnel.
2. Do not allow vehicle parking in existing right-of-way or to block existing drives.
3. Do not allow vehicle parking on private property without prior approval.

D. Progress Cleaning
1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
2. Remove waste materials, debris, and rubbish from site periodically and dispose off site.

1.07 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary above grade or buried utilities, equipment, facilities, and materials, prior to Final Inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition. Newly installed permanent facilities shall be restored to specified condition if used during construction.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 00150

SECTION 00170

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination

B. Cutting and patching

C. General installation provisions

D. Cleaning and protection

E. Final inspection and tests

1.02 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Beginning new work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specifications sections.

D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

1.03 CUTTING AND PATCHING

A. General
   1. Do not cut or alter the work of other contractors without written approval of the Engineer.
   2. Work removed shall be replaced or repaired by the Contractor who removed or damaged the work, and a craftsman, skilled in the trade that the particular replacement requires, shall do the work. (i.e.: A mason, not an electrician, shall replace masonry removed by the Electrical Contractor.)
   3. Conduct removal operations in a manner that will eliminate hazards to persons and property and prevent the release of dust and rubbish into the air. Existing work, which is to remain and is damaged by contract operations shall be replaced with new materials at no additional cost to the Owner.
   4. For replacement of work removed, comply with specifications for type of work to be done.

B. Inspection
   1. Inspect existing conditions of work including elements subject to movement or damage during cutting and patching and excavating and backfilling.
   2. After uncovering work, inspect conditions affecting installation of new products.

C. Preparation prior to cutting.
   1. Provide shoring, bracing, and support as required to maintain structural integrity of project.
   2. Provide protection for other portions of project.
   3. Provide protection from elements.

D. Performance
   1. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.
   2. Execute cutting and demolition by clear sawcut methods, perpendicular to prevent damage to other work and provide proper surfaces to receive installation of repairs and new work.
   3. Execute excavating and backfilling as specified in Section, Trenching for Utilities.
   4. Restore work, which has been cut or removed; install new products to provide completed work in accordance with requirements of contract documents.
   5. Refinish surfaces as necessary to provide an even finish.

1.04 GENERAL INSTALLATION PROVISIONS

A. Require Installer of each major component to inspect conditions under which work is to be performed. Clean substrate surfaces prior to applying next material or substance. Do not proceed until unsatisfactory conditions have been corrected.

B. Comply with manufacturer's recommendations to the extent that they are more explicit or stringent than requirements contained in Contract Documents.

C. Provide attachment and connection devices and methods necessary for securing work. Secure work true to line and level. Allow for expansion and building movement.

D. Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Engineer for final decision.

E. Check dimensions before starting each installation.

F. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

G. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

H. Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the application indicated. Refer questionable mounting height decisions to the Engineer for final decision.

1.05 CLEANING AND PROTECTION

A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration.

B. Clean and maintain completed construction as frequently as necessary through the construction period. Adjust and lubricate components as required to ensure proper operation.

C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, or dangerous exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
   1. Excessive static or dynamic loading.
   2. Excessive internal or external pressures.
   3. Excessively high or low temperatures.
   4. Thermal shock.
   5. Air contamination or pollution.

6. Water or ice.
7. Abrasion.
8. Heavy traffic.
9. Misalignment.
10. Improper shipping or handling.
11. Theft.
12. Vandalism.

D. Clean Project prior to final inspection. Project clean up shall include, but not be limited to, the following:
1. Clean glass.
2. Clean surfaces exposed to view as recommended by manufacturer.
3. Remove temporary labels.
4. Vacuum carpeted areas.
5. Clean fixtures to a sanitary condition.
6. Repaint damaged paint surfaces.
7. Clean debris from roofs, gutters, down spouts, and drainage systems.
8. Sweep paved areas.
9. Rake clean landscaped surfaces.
10. Remove waste and surplus materials.
11. Remove temporary construction facilities.

1.06 FINAL INSPECTION

A. Complete punch list items within contract time to avoid liquidated damages.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 00170

SECTION 00400

MOBILIZATION

PART 1 GENERAL

1.01 DESCRIPTION

A. This work consists of preparatory work and operations to mobilize personnel, materials, and equipment to the project site.

1.02 MEASUREMENT AND PAYMENT

A. *Mobilization* will be paid as contract lump sum price.

B. Partial payments for *Mobilization* will be made with the first and second partial pay estimates paid on the contract and will be made at the rate of 50% lump sum price on each of these partial pay estimates, provided the amount bid for *Mobilization* does not exceed 5% of the total amount bid for the contract. Where the amount bid for *Mobilization* Exceeds 5% of the total amount bid for the contract, 2.5% of the total amount bid will be paid on each of the first two partial pay estimates. That portion exceeding 5% will be paid on the last partial pay estimate.

C. As an exception to the above where the work covered by the contract is limited exclusively to the resurfacing of an existing pavement, payment of the entire lump sum price for *Mobilization* will be made with the first partial pay estimate paid on the contract, provided the amount bid does not exceed 5% of the total amount bid on the contract. Where the amount bid for *Mobilization* exceeds 5% of the total amount bid for the contract, 5% of the total amount bid will be paid on the first partial pay estimate. That portion exceeding 5% will be paid on the last partial pay estimate.

D. Such price and payment includes, but is not limited to, the movement of personnel, equipment, supplies and incidentals to the project site, for the establishment of offices, buildings and other facilities necessary for work on the project; the removal and disbandment of those personnel, equipment, supplies, incidentals or other facilities that were established for the prosecution of work on the project; and for all other work and operations that shall be performed for costs incurred before beginning work on the various items on the project site.

E. For projects that have delayed notice to proceed date of 90 calendar days or more after contract execution, the first mobilization payment may be for the verified actual cost of paid bond premiums. This payment will only be made upon request by the contractor with supporting documentation including invoice and proof of payment. This payment will be limited to 1% of the amount bid for the contract and the subsequent mobilization payment will be reduced by and equal amount to follow the payment schedule as shown above. In no case will more than 5% of the amount bid for the contract be paid before the last partial pay estimate.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

PAY ITEM:	**PAY UNIT:**
Mobilization	LS

END OF SECTION 00170

SECTION 00401

EROSION CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work consists of providing all labor, material, equipment, and services required to conduct erosion control as described herein and indicated on drawings in accordance with the requirements of the North Carolina Sedimentation Pollution Control Act of 1973 and the rules and regulations promulgated pursuant to the provisions of said act. In the event of changing field conditions, erosion control devices shall be changed with the approval of the Engineer.

B. Determination of Measurement: Measurement shall not be made for Erosion Control under circumstances when Erosion Control line item in the contract is listed as Lump Sum as all items required for erosion control are then incidental to the lump sum line item. In specific circumstances, erosion control items may be itemized at the discretion of the Engineer or their designee. In these instances, the specific erosion control item will be paid using the common measurement for the individual material discernable in the products section below.

C. Basis for Payment: Payment for Erosion Control shall be made over the life of the project. Initially, 40% of the lump sum for erosion control shall be paid on the first payment application, then 5% on each subsequent payment application until the final payment application, where the remaining balance will be paid.

PART 2 PRODUCTS

2.01 MATERIALS

A. Products specified in this section are for establishing the type, design and quality required. Products of equal type, design and quality produced by other manufacturers will be considered.

B. Geotextiles:

1. The fabric shall consist of strong rot-proof synthetic fibers formed into a woven fabric or a nonwoven needle punched fabric meeting all applicable requirements of this section. The fabric shall be free from any treatment or coating which might significantly alter in physical properties before or after installation. The fabric fibers shall contain stabilizers and/or inhibitors to make the filaments resistant to deterioration resulting from ultraviolet or heat exposures. The fabric shall be a pervious sheet of synthetic fibers oriented into a stable network so that the fibers retain their relative position with respect to each other. The edge of the fabric shall be finished to prevent the outer fibers from pulling away from the fabric. The fabric shall be free of defects or flaws which significantly affect its physical and/or filtering properties. Sheets of fabric may be sewn or bonded together with a fungus resistant material. No deviation from any physical requirements will be permitted due to the presence of the seam.

2. During all periods of shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect the fabric from direct sunlight, mud, dust, dirt, and debris. The fabric shall not be exposed to temperatures greater than 140°.

3. When anchor pins are required, they shall be fabricated of steel and installed per manufacturer's recommendation unless otherwise specified by the Engineer.

4. Surfaces to receive filter fabric shall be graded to the lines and grades shown on the plans, unless otherwise directed by the Engineer. The surface shall be free of obstructions, debris, and pockets of soft or low-density material. The fabric shall be laid smooth and free from tension, stress, folds, wrinkles, or creases. Horizontal overlaps shall be a minimum of 18" with the upper fabric overlapping the lower. Vertical overlaps shall be a minimum of 18" with the upstream fabric overlapping the downstream. The Engineer reserves the authority to reject any material that is felt to not meet the necessary requirements.

5. All geotextiles submitted to the City for approval must meet minimum qualification requirements of *North Carolina Department of Transportation Standard Specifications for Roads and Structures*.

C. Erosion Control Stone

1. Use field stone or rough unhewn quarry stone for plain rip rap. Use stone that is sound, tough, dense, resistant to the action of air and water and suitable in all other respects for the purpose intended. Where broken concrete from demolished structures or pavement is available, it may be used in place of stone provided that such use meets with the approval of the Engineer. However, the use of broken concrete that contains reinforcing steel will not be permitted.

2. All riprap lining shall be in accordance with the North Carolina Department of Transportation (NCDOT) – Standard Specifications for Roads and Structures, current edition, and any revisions. 1042-2 for Class A riprap. The stones should vary in size from 2” to 6”.

3. Stone or broken concrete for rip rap shall meet the requirements outlined in Chart A in the Acceptance section of this technical specification for the class and size distribution..

All stone place for the purposes of Erosion Control Stone shall have a layer of geotextile placed beneath it. Geotextile layers shall have an overlapping edge of no less the 18 inches or be installed accordance to the manufacturer’s specifications, whichever is greater.

D. Erosion Control Matting:

Matting for erosion control shall be excelsior matting or straw matting. Furnish a material certification certifying that the matting meets this article. Other acceptable material manufactured especially for erosion control may be used when approved by the Engineer in writing before being used. Matting for erosion control shall not be dyed, bleached or otherwise treated in a manner that will result in toxicity to vegetation.

1. Excelsior Matting

   Excelsior matting shall consist of a machine produced mat of curled wood excelsior at least 47" in width and weigh 0.975 lb/sy with a tolerance of ± 10%. At least 80% of the individual excelsior fibers shall be 6" or more in length. Evenly distribute the excelsior fibers over the entire area of the blanket. Cover one side of the excelsior matting with an extruded plastic mesh. The mesh size for the plastic mesh shall be no more than 1" x 1".

2. Straw Matting

   Straw matting shall consist of a machine produced mat of 100% grain straw. The straw matting shall have a width of at least 48" and no more than 90" and weighing at least 0.50 lb/sy and no more than 0.75 lb/sy. Evenly distribute the straw over the entire area of the blanket. Cover one side of the blanket with photodegradable

netting with a maximum mesh (netting) size of 0.75" x 0.75" sewn together with a degradable thread. The grain straw shall contain no weed seeds. Package each roll separately.

3. Wire Staples

Staples shall be machine made of No. 11 gauge new steel wire formed into a U-shape. The size when formed shall be not less than 6" in length with a throat of not less than 1" in width.

2.02 ACCEPTANCE

A. Geotextile:

1. The Contractor shall furnish a Type I Certified Mill Test Report, Type 2 Typical Certified Mill Test Report, or Type 4 Certified Test Report for the fabric in accordance with Article 106-3 of the NCDOT Standard Specifications for Roads and Structures, current edition, and any revisions. Additionally, the material shall be subject to inspection, test, or rejection by the Engineer at any time.

2. Fabric will be rejected if more than 72 hours has elapsed between the time the protective wrapping has been removed, and the fabric is covered up during installation except where the fabric is used for temporary silt fence.

3. Chart A:

PROPERTY	TEST PROCEDURE	VALUE
Grab Tensile	ASTM D-4632	300 lbs.
Grab Elongation	ASTM D-4632	15%
Mullen Burst	ASTM 3786	600 lbs.
Puncture	ASTM D-4633	120 lbs.
Trapezoidal Tear	ASTM D-4633	120 lbs.
AOS	ASTM D-4751	30/70 US Sieve

B. Erosion Control Stone:

1. Chart B:

ACCEPTANCE CRITERIA FOR RIP RAP AND STONE FOR EROSION CONTROL			
	Required Stone Sizes in inches		
Class	Minimum	Midrange	Maximum
A	2	4	6
B	5	8	12
1	5	10	17
2	9	14	23

No more than 5.0% of the material furnished can be less than the minimum size specified nor no more than 10.0% of the material can exceed the maximum size specified.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Shall include labor, equipment, tools, saw cutting, legal disposal, and all other incidentals necessary to complete the work.

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

C. Geotextiles:
   1. Geotextiles shall be placed as shown on the plans and in strict accordance with manufacturer's written instructions. To be acceptable for use, all geotextiles must be certified by the manufacturer to meet the specified requirements (minimum roll average) and shall be packaged and labeled according to ASTM procedures. Geotextiles are to be installed with the common installation method related the specific type of erosion control products being installed.

D. Borrow and Disposal Areas:
   1. Obtain and pay for erosion control permit for borrow and disposal areas as required by Engineer and the local agency having jurisdiction. (NC Department Environmental Quality)
   2. Install and maintain erosion control devices in accordance with Contractor's approved plan.

E. Silt Fences:
   1. Provide posts and metal fence fabric as detailed on the drawings and cover with filter cloth as indicated to furnish an effective filtering medium to separate soil sediment from the storm water runoff. The filter cloth shall be permanently attached to the fence to prevent displacement, and the bottom of the filter cloth shall be buried to prevent under-washing in heavy rainstorms.

F. Gravel Filters:
   1. Gravel filters as detailed on the drawings, consisting of piles of #57 stone shall be placed around permanent and temporary drainage structures to allow storm water to flow into natural drainage channels while separating soil sediment from the storm water runoff.

G. Rock Inlet Sediment Traps:
   1. Provide posts, staples, hardware cloth and stone of type and class as detailed on the drawings. Structural stone, per class specified, shall be placed around the outside

perimeter of the inlet structure with approximately 2:1 side slope and plate the upstream side with #57 stone.

H. Rock Pipe Inlet Sediment Traps:

I. Provide stone of type and class detailed on the drawings. Surround structure with a sediment storage area built to 3600 cubic feet per disturbed acre. Dam must be a minimum of 18 inches high. Temporary Swales and Ditches:
   1. Temporary swales and ditches shall be graded to the profiles and sections indicated and, in the locations, directed. Slope all swales and ditches to drain to the basins and/or filters as indicated.

J. Erosion Control Matting:
   1. See Section in products above

K. Erosion Control Stone:
   1. The riprap shall be placed and graded as specified in the NCDOT – Standard Specifications for Roads and Structures, current edition and any revisions, Section 876 and other applicable sections. The stone shall be placed on the slopes as indicated on the plans, or as the Engineer directs. The stone shall be graded so that the smaller stones are uniformly distributed throughout the mass. The Contractor may place the stone by mechanical methods, augmented by hand placing, provided that when completed, the riprap shall be at a depth of at least that which is shown on the plans.
   2. The stone lining shall be placed upon the filter fabric and smooth graded to a depth as shown on plans in such a way as to not damage the underlining fabric liner. Any damage to the fabric liner shall necessitate the removal and replacement of the damaged area.
   3. The finished slope should be free of pockets of small stone or clusters of large stones. Hand placing may be necessary to achieve the proper distribution. The finished grade of the riprap should blend with the surrounding area. No over fall or protrusion of riprap should be apparent.

L. Seeding:
   1. Refer to Section 00480.

M. Maintenance
   1. The Contractor shall be responsible for periodic reviews of the conditions of the erosion control measures and shall remove all soil sediment and debris as it accumulates in and around the sediment collection structures.
   2. The Contractor shall make all necessary repairs to the erosion control measures to insure their proper operation and function throughout the duration of the project.

N. Self-Inspection and Monitoring:
   1. Provide self-inspection and reporting as required by the Sedimentation Pollution Control Act for the duration of the project. These inspections will be performed to ensure that the approved sedimentation and erosion control measures on the Drawings are installed, maintained, and working adequately.
      1. The inspections need to be conducted after each phase of the project and continue until permanent ground cover is established.
      2. The self-inspection forms and information regarding this program are provided On NCDEQ Website. HOME > ABOUT > DIVISIONS > ENERGY, MINERAL, AND LAND RESOURCES > EROSION AND SEDIMENT CONTROL > E&SC DOWNLOADS AND FORMS
      3. Documentation of inspections shall be recorded on a single copy of the approved erosion and sedimentation control drawings. These Drawings and inspection reports shall be made available at the project site.

2. Provide weekly self-monitoring in accordance with the NPDES Stormwater permit for all construction activities

O. Removal of Temporary Erosion Control Measures:
   1. Remove erosion control devices upon the approval of the permanent stabilization of the site by the agency having jurisdiction of the area (NCDEQ) and the Engineer. Dress sediment deposits remaining in place after the erosion control devices are removed to conform to the existing grade, prepared and seeded. Include cost of removal and cleanup in the cost of the installation of the device. All grassed areas disturbed as a result of this removal shall be re-grassed as called for in Section 00480.

Pay Item	**Pay Unit**
Erosion Control	LS
High Hazard Temporary Silt Fence	LF
Standard Temporary Silt Fence	LF
Rip Rap	TN
Geotextile Fabric	SY

END OF SECTION 00401

SECTION 00405

CLEARING, GRUBBING, AND SELECTED TREE REMOVAL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Furnishing of all labor, equipment, and materials in performing all operations in connection with clearing and grubbing, selected tree removal, and legal disposal thereof.

1.02 MEASUREMENT AND BASIS FOR PAYMENT

A. Clearing and Grubbing
   1. The area to be paid for shall be the area in acres, measured horizontally of the areas designated on the plans or directed by the Engineer to be cleared and/or grubbed. Measurement shall be made to the nearest square foot. No measurement or allowance will be made for removing isolated trees within an area designated by the Engineer to be cleared and/or grubbed, nor for cutting and removal of grain, grass, weeds, or other plants. Clearing and grubbing shall include all selective tree removal unless otherwise specified by the Contract. The combined item of clearing and grubbing shall also include the removal and satisfactory disposal of fences, steps, walls, chimneys, slabs, building foundations, basements, signs and other rubble and debris unless otherwise specified by the Engineer.
   2. Alternate Lump Sum: If the bid form indicates lump sum for clearing and grubbing no measurement is required. All Clearing and Grubbing within the Limits of Disturbance (LOD) shall be included in Lump Sum payment.

B. Selective Tree Removal
   1. By the number of various sizes of selected trees removed. Diameters will be measured at a height of 4'-6" above the ground.
   2. Selected trees shall NOT be paid for within an area designated as clearing and grubbing.
   3. Basis for Payment: Payment shall be for each selected tree removed as indicated in the sizing chart below. Selected trees shall NOT be paid for within an area designated as clearing and grubbing. Trees measuring less than 4” in diameter shall be considered saplings. Payment for saplings is paid for under clearing and grubbing and shall not be paid as selective tree removal.

PAY ITEM SIZE	ACTUAL TREE DIAMETER
6"	4" up to 8"
10"	8" up to 12"
15"	12" up to 18"
18"+	Above 18"

PART 2 PRODUCTS

2.01 MATERIALS NOT USED

PART 3 EXECUTION

3.01 INSTALLATION

A. Protection: Locate and protect property corners and survey control stakes prior to start of clearing operations. Contractor shall protect underground utilities in the area.

B. Clearing: Clearing shall consist of the felling and cutting up of trees, the trimming of trees, and the satisfactory disposal of trees and other vegetation together with down timber, snags, brush, and rubbish occurring within the areas to be cleared. Trees and other vegetation, except such individual trees, groups of trees, and vegetation as may be indicated on the drawings or designated by the Engineer to be left standing, and all stumps, roots, and brush in areas to be cleared shall be cut off flush with or slightly below the original ground surface. Trees and stumps that are to be grubbed under the same contract may be cut to any height up to three feet. When it is necessary to remove limbs and branches from trees which are to be left standing, the cut shall be neatly made close to the bole of the tree or to main branches. Individual trees, groups of trees, and other vegetation to be left standing shall be thoroughly protected from damage incident to construction operations by the erection of barriers or by other approved means. Clearing operations shall be conducted to prevent damage by falling trees to trees to be left standing, existing structures and installations, and to those under construction, and to provide safety of employees and others.

C. No trees, brush, stumps, or other refuse from clearing shall be places or left on adjacent property. Trees unavoidably falling outside the specified limits shall be immediately removed and disposed of.

D. For cut or scarred surfaces, damaged area should be trimmed with a sharp blade to remove shredded or loose outer layer(s) and left to heal on its own. No paint or dressing is required.

E. Grubbing: All stumps, roots, logs, or other timber more than three inches in diameter, matted roots, and other debris shall be excavated and removed to a depth not less than three feet below any subgrade, shoulder, or slope. All depressions excavated for or by the removal of stumps and roots, shall be refilled with suitable material thoroughly compacted.

F. Selective Tree Removal: Selected trees to be removed shall consist of trees six inches or more in diameter either shown on the plans or as designated by the Engineer. All roots, or other timber more than three inches in diameter, and matted roots shall be excavated and removed to a depth not less than three feet below any subgrade, shoulder, or slope.

G. Disposal: All timber, logs, stumps, roots, brush, rotten wood, and other debris from the clearing and grubbing operations shall be disposed of legally by the Contractor.

H. Erosion Control: Erosion control devices shall be installed and operational prior to other land disturbing activity. Install erosion control devices in accordance with Project Manual and Drawings and Erosion Control Permit.

I. Access Roads: Clear for access roads. Limit clearing and grubbing for access roads to width necessary or as shown on plans.

Pay Item	**Pay Unit**
Clearing and Grubbing	LS or AC
Selective Tree Removal (Tree size”)	EA

END OF SECTION 00405

SECTION 00410

PROOFROLLING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This item shall consist of furnishing and operating heavy pneumatic tired compaction equipment or fully loaded tandem dump truck for compacting the roadbed and testing the roadbed for stability and uniformity of compaction.

B. The requirement for proofrolling may not be eliminated or modified without the approval of the Engineer.

PART 2 PRODUCT

2.01 EQUIPMENT

A. The Engineer shall check to see that the equipment conforms to the requirements of this article. A tandem dump truck legally fully loaded to not less than 28 tons with soil or stone may be used to proofroll.

B. If requested, weight tickets signed by a licensed public weighmaster may be used to determine the weight of the dump truck and product used for proof rolling.

C. Requests by the Contractor to substitute other types of equipment shall be forwarded to the Engineer for approval or disapproval.

PART 3 EXECUTION

3.01 EXECUTION

A. Proofrolling is to be done when the roadbed is within plus or minus 0.5 feet of finished grade and the roadbed shall be rolled for a width of 2 feet outside the proposed edges of pavement including shoulder pavement.

B. A coverage is considered to be complete when the entire area to be proofrolled 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.

C. Equipment shall be operated at a speed between 225 ft/min and 300 ft/min.(2.6 mph-3.4 mph)

D. The Contractor may operate the proofrolling equipment at times other than when directed by the Engineer. Such use is at the Contractor's option and is not to be considered as work performed under this section and will not be considered for payment.

E. 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 proofrolling equipment shall be repaired by contractor at no cost to the City.

3.02 QUALITY CONTROL

A. The Engineer shall follow (walking is preferable) a short distance behind the proofroller 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.

B. 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.

C. Should it be determined that the failure is due to negligence or weather, the City 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.

END OF SECTION 00410

SECTION 00412

INCIDENTAL STONE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. DESCRIPTION

1. Perform the work covered by this section including but not limited to, furnishing, hauling, placing and shaping a graded stone material for use in driveways, temporary maintenance of traffic, adjacent to mailboxes, beneath traffic island, median covers and at any other locations, other than use as a part of any base course on which pavement is to be placed; shaping; tamping when required; maintaining the base; and disposing of any surplus stockpiled material.

2. This section specifically does not include bedding stone for pipes and other structures.

B. MEASUREMENT AND PAYMENT

1. Incidental Stone Base will be measured and paid at the contract unit price per ton that has been stockpiled or incorporated into the completed and accepted work. This quantity will be measured as provided for in this section. Incidental Stone base which has been stockpiled will not be measured more than one time. The Incidental stone will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. No deductions will be made for any moisture contained in the stone at the time of weighing.

2. Determination of Measurement: Measurement shall be per ton of each type placed as approved by the Engineer prior to placement. Contractor shall furnish a “certified scale ticket” with each load of stone to the Engineer within 24 hours in order to be considered for payment.

3. Basis for Payment: Payment shall be on a contract unit price per ton. Incidental stone that is stockpiled or not placed will not be considered for payment. No separate payment shall be made for incidental stone placed in mainline or service lateral trenches unless approved by the Engineer.

PART 2 PRODUCTS

2.02 MATERIALS

A. Use stone gravel or recycled concrete for the graded stone material which is well graded from the 1-1/2 inches through the No. 200 sieve. The liquid limit of the recycled concrete is raised 5 points to no more than 35.

PART 3 EXECUTION

3.01 INSTALLATION

A. WORK

1. Work: Labor, tools, materials, equipment, furnishing, placing, supplementing stone required for maintenance, grading/leveling stone, hauling, wetting, blading, compacting, removing and disposal of incidental stone immediately prior to asphalt pavement patch.

2. Contractor shall remove a minimum of two inches of soil or aggregate base course, place and compact stone in order for this item to be applicable.

B. GRADATION SAMPLING, TESTING AND ACCEPTANCE

1. Acceptance of the graded stone material will be made by visual inspection and approval by the Engineer as being satisfactory for the purpose intended before it use. No sampling for testing of the graded stone material will be performed.

C. PLACING AND SHAPING STONE

1. Spread the stone material uniformly over the area required and then shape and dress to the satisfaction of the Engineer.

2. Uniformly spread, grade to the required depth and firmly tamp the stone material beneath traffic island and median covers. If the Contractor desires, the surface of the stone material me be covered with a sufficient amount of fine material to facilitate grading and shaping.

D. MAINTENANCE

1. Maintain the stone material until final acceptance of the project by reshaping and by the addition of incidental stone base material when directed by the Engineer.

Pay Item	**Pay Unit**
Incidental Stone Base	TN

END OF SECTION 00412

SECTION 00420

AGGREGATE BASE COURSE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The Work consists of providing all labor, material, equipment, and services required for all work as described herein and indicated on drawings.

B. Determination of Measurement: Measurement shall be by certified scale ticket with each load of material. Tickets must be provided within 24 hours.

C. Basis for Payment: Contractor will be paid on a contract unit price per ton of stone that is placed.

D. Remove and Replace Gravel Driveways with Aggregate Base Course (no overages allowed)

1. Determination of Measurement: Measurement shall be in square yards as measured in the field.
2. Basis for Payment: Payment shall be on a contract unit price bid per square yard completed and accepted. Existing gravel and/or soil driveway shall be replaced with six (6) inch thick stone, compacted Aggregate Base Course (ABC) or whichever matches existing type stone.

1.02 REFERENCES

A. The *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions, Section 520, will govern the work under these specifications except as they are modified hereinafter.

1.03 SCHEDULING

A. No aggregate base course will be laid until the sub-grade is approved for grade and density by the Engineer.

PART 2 PRODUCTS

2.01 SOURCE QUALITY CONTROL AND TESTS

A. Gradation testing may be required by Engineer if visible segregation in material is noted.

B. Sand cone test shall be utilized for density testing. Density testing shall be performed at a minimum of one test per road or every 1,000 feet for roads less than 27 feet in width and every 500 feet for roads greater than 27 feet in width.

PART 3 EXECUTION

3.01 Proofrolling is required for roadway subbase and base courses.

Pay Item	**Pay Unit**
Aggregate Base Course	TN
Removal Existing Gravel Drive	SY

END OF SECTION 00420

SECTION 00425

EXCAVATION/BACKFILLING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Roadway: This item shall consist of the removal and satisfactory disposal of all materials excavated within the area of the street to be paved, the removal and replacement of unsuitable sub-grade material with satisfactory material, the formation, compacting, and shaping of all embankments to the lines and grades established by the Engineer, excavation from borrow areas of suitable materials to be hauled in and used as fill or back-fill, when sufficient quantities of suitable material are not available from the roadway, all in accordance with this section of the specification, and subject to the terms and conditions of the contract. The classification of all material excavated shall be either "Unclassified Excavation" or "Undercut Excavation."

B. Storm Sewer: The Contractor shall provide labor, equipment, and material to perform required excavating, backfilling, and compacting for storm sewer utilities and related structures to the depths shown on the plans or as directed by the Engineer.

C. Determination of Measurement: The number of cubic yards of Unclassified Excavation measured in original position by cross sectioning and computed by the average end area method. When it is not feasible to cross section the volume of excavation which is to be replaced with borrow back-fill, the loads of material hauled in shall be counted. Undercut Excavation will be measured by the volume (cubic yards) of unsuitable material excavated, authorized by the Engineer. Excavation to greater depths and/or widths, unauthorized, shall be refilled with select backfill material used for backfilling and compacted at no additional cost to the City. The width of the trench shall not exceed the width required to properly tamp backfill material around pipe or to adequately shore trench but shall be limited to pipe diameter plus two feet or pipe diameter plus ½ pipe diameter, whichever is greater.

D. Basis for Payment: Contractor will be paid on a contract unit price per cubic yard for unclassified/undercut excavation, which price and payment shall be full compensation for the excavation and hauling; formation and compaction of embankments; removal and disposal of surplus drain pipes, existing walls, steps and surplus materials within the right-of-way, removal and disposal of all roots, stumps, logs, and other debris excavated from drainage ditches; for all sloping and trimming of the ditches, preparation and completion of the sub-grade and shoulders, ditches, slopes, and furnishing of all labor, equipment, tools, and incidentals necessary to complete the work

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Complete removal and disposal of unstable soil including, but not limited to, excavating, loading, hauling, properly disposing of excavated material, and providing select

borrow material for backfill. Providing select borrow material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.

B. Construction Methods: The Contractor shall proceed with excavation and disposal of material at such locations and in such sequence as the Engineer may approve.

1. All excess excavated material from a project shall be disposed of by the Contractor at his expense unless ordered to another project by the Engineer. The Contractor's obligation to remove and dispose of excess materials shall in no manner convey to him any right of property in any material taken from any excavation.
2. Recesses shall be excavated to receive the bells of the pipe.
3. When the foundation materials are of poor supporting value, the pipe foundation shall be reinforced by one of the following methods:
    a. By replacing the unsuitable material in a minimum depth of six inches, or as directed by the Engineer with sand, sand-clay, gravel, or crushed stone and thoroughly tamped.
    b. By constructing supporting cradles of concrete under each joint.
4. Excavation below grade shall be backfilled at the Contractor's expense, as directed by the Engineer, and thoroughly tamped. When select borrow material is required by the Engineer, it shall be paid for as Select Borrow.
5. The ground adjacent to all excavation shall be graded to prevent surface water running in. The Contractor shall, at his expense, remove by pumping or other means approved by the Engineer any water accumulated in the trench.
6. All banks or trenches shall conform to City and OSHA safety standards (whichever more stringent). The Contractor shall, at his expense, do all bracing, sheeting, and shoring necessary to perform and protect all excavations, as required for safety, and as directed by the Engineer or when the Contractor deems it necessary.
7. The excavation for manholes and catch basins shall be of sufficient width and depth to permit ready construction.

C. Sub-Grade: The sub-grade shall be graded and regulated either by hand labor, the use of one-man motor graders or other approved methods. The sub-grade of the area to be paved shall be in a true plane parallel with and to the grade line established by the Engineer. Should soft or yielding places develop in the sub-grade, the unsuitable material shall be removed and replaced with suitable material and thoroughly compacted. Care shall be taken to ensure that all utility excavations have been thoroughly backfilled and compacted. Any settlement evident after base has been placed shall be corrected at the Contractor's expense. No soil, sand-clay or other base material shall be placed on the sub-grade until the sub-grade has been checked and approved by the Engineer. A variation of more than one-half inch (½") shall be cause for rejection of the sub-grade. Compaction testing for subgrade and for base is 100% compaction.

D. Unclassified Excavation: All excavation of every description and of whatever substance including rock and rock-like material encountered shall be to the lines and grades indicated or otherwise as specified. The classification of all material excavated shall be "Unclassified Excavation." The work shall consist of the excavation, placement, compaction or satisfactory disposal of all materials encountered within the limits of the work, necessary for the construction of the roads, parking lots, building pads, and utilities. Suitable material excavated shall be transported to and placed in fill areas within the work limits. Excavation and filling shall be performed in a manner and sequence that will provide drainage at all times. All excess unsuitable excavated material from the project shall be legally disposed of by the Contractor at his expense.

1. Removal of Old Pipe, Walls, Steps, Curb, Gutter, Sidewalk and Pavement: All old pipe, walls, steps, curb, gutter, sidewalks, and pavement shall be removed (including saw cutting) as directed by the Engineer, and legally disposed of by the Contractor. All items referenced above shall be considered incidental to unclassified excavation.

E. Undercut Excavation: All undercut excavation consists of the excavation, placement, and compaction and/or satisfactory disposal of materials removed from a location below finished grade roadway cross section.

F. Drainage Ditches: Drainage ditches shall be excavated in accordance with the plans, sections, and grades, and at the time directed by the Engineer. No deviation from alignment, grade, or section will be allowed except by the Engineer.

1. The Contractor shall, in general, be required to excavate all drainage ditches in proper sequence or at the time directed by the Engineer. All roots, stumps, and objectionable matter in the sides and bottom of the ditch shall be cut to conform to the slope, grade, and shape of the section. The Contractor shall dispose of the excavated material as directed by the Engineer and no excavated material or spill from a drainage ditch shall be deposited or left within three feet of the edge of the ditch, but shall be scattered back and not left piled up in a ridge along the ditch, unless otherwise shown on the plans or directed by the Engineer in writing.

G. Private Driveways: The Contractor shall keep private driveways open and unobstructed as far as practicable and shall regrade same from curb to property line when directed by the Engineer.

Pay Item	**Pay Unit**
Excavation and Backfilling	CY
Unclassified Excavation	CY
Undercut Excavation	CY

END OF SECTION 00425

SECTION 00426

SOIL MATERIALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. SOIL TYPE BASE COURSE
   1. Excavating, loading, hauling, spreading, and compacting, etc. as required for placement of soil base course.

B. SELECT BORROW
   1. Shall include material loading, hauling, placing, and compacting, equipment, labor, supplying suitable subsoil material and any other incidentals required for installation.

C. TOPSOIL
   1. Shall include removal of unusable topsoil including rocks and debris, excavation, grading, loading, hauling, equipment, labor, compaction, supplying suitable topsoil material and any other incidentals required for installation.

D. Conditioning Existing Base:
   1. Scarifying, shaping, and compacting the existing base to conform to the required lines, grades, depths, and typical sections established by the plans or modified by the Engineer is incidental to Soil Materials.

1.02 MEASUREMENT AND BASIS FOR PAYMENT

A. SOIL MATERIALS SPECIFIED AS SOIL TYPE BASE COURSE, SELECT BORROW, OR TOPSOIL
   1. Determination of Measurement: Measurement shall be based on truck quantity minus 25% from certified scale ticket for each load of material. Certified scale tickets must be provided within 24 hours.
   2. Basis for Payment: Soil Materials will be paid on a contract price per cubic yard.

1.03 REFERENCES

A. AASHTO T180 - Moisture-Density Relations of Soils Using a 10-lb (4.54 kg) Rammer and an 18-in. (457 mm) Drop.

B. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12-inch (304.8 mm) Drop.

C. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

D. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18-inch (457 mm) Drop.

E. ASTM D2487 - Classification of Soils for Engineering Purposes. (Uniform Soil Classification System)

F. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth). OTHER TESTING ALLOWED

G. ASTM D3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 SUBMITTALS

A. Materials Source: Submit name of imported materials source.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions. Maintain one copy on site.

PART 2 PRODUCTS

2.01 SOIL TYPE BASE COURSE MATERIALS

A. Soil type base course shall be either Type A, B, or C.
   1. The base course material shall be free from vegetative matter and lumps or balls of clay.

B. Samples will be tested for gradation in accordance with AASHTO T-88. The liquid limit test will be in accordance with AASHTO T-89 and the plasticity index will be tested in accordance with AASHTO T-90.

C. Gradation testing shall be performed a minimum of one test per road or every 2,000 feet for roads less than 27 feet in width and every 1,000 feet for roads greater than 27 feet in width.

D. Sand cone test shall be utilized for density testing. Density testing shall be performed a minimum of one test per road or every 1,000 feet for roads less than 27 feet in width and every 500 feet for roads greater than 27 feet in width.

Requirements	Limits Type A	Limits Type B	Limits Type C
Passing 2” Sieve		100%	
Passing 1” Sieve	100%	70% - 100%	
Passing ½" Sieve		55% - 100%	
Passing No. 4 Sieve		35% - 100%	
Passing No. 10 Sieve	65% - 100%	25% - 65%	100%
Passing No. 40 Sieve		15% - 45%	
Passing No. 200 Sieve		5 – 25%	

2.02 SELECT BORROW

A. Select Borrow:
   1. A structurally cohesive and uniform, high quality earthen material excavated from an approved source or borrow pit. Material classified as select borrow must be free of debris/unapproved fill materials and meet engineering standards as defined specifically by the Engineer or their designee. Typical materials include sand clay or sandy clay loam materials referenced in the USDA Soil Triangle.
   2. Select materials from *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* may be used with approval from Engineer or their designee.

2.03 TOPSOIL MATERIALS

A. Topsoil Type S3: Conforming to the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions.

B. Topsoil Type S4:
   1. Excavated and reused material.
   2. Graded.
   3. Free of roots, rocks larger than ½ inch, subsoil, debris, large weeds, and foreign matter.

C. Topsoil Type S5:
   1. Imported borrow.
   2. Friable loam.
   3. Free of roots, rocks larger than ½ inch, subsoil, debris, large weeds, and foreign matter.
   4. Acidity range pH of 5.5 to 7.5.
   5. Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter.

PART 3 EXECUTION

3.01 INSTALLATION

A. SOIL REMOVAL
   1. Excavate subsoil and topsoil from areas designated.
   2. Remove lumped soil, boulders, and rock.
   3. Stockpile excavated material on approved site and remove excess material, not being used, from site.
   4. Remove excavated material from site when no onsite, stockpile area is approved.

B. STOCKPILING/STOCKPILE CLEANUP
   1. Stockpile materials on approved site.
   2. Stockpile in sufficient quantities to meet Project schedule and requirements.
   3. Separate differing materials with dividers or stockpile apart to prevent intermixing of soil types or contamination.
   4. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
   5. Remove stockpile, leave area in a clean and neat condition, with permanent ground cover. Grade site surface to prevent free standing surface water.
   6. If a borrow area is indicated, leave area in a clean and neat condition, with permanent ground cover. Grade site surface to prevent free standing surface water.

C. Soil type base course shall be placed on a sub-grade that has been cut to the required depth as shown on the plans. Sub-grade should be checked by the inspector or Engineer before any base course can be placed.

D. The base shall be finally shaped to conform to the lines, grades, and typical sections shown on the plans. Care shall be taken to prevent the formation of slippage planes in the surface. All soft or unstable areas shall be thoroughly dried, re-mixed, or reworked and replace

Pay Item	**Pay Unit**
Soil Material (Type Sx)	CY
Soil Type Base Course	CY
Select Borrow	CY
Topsoil	CY

END OF SECTION 00426

SECTION 00440

MILLING BITUMINOUS PAVEMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Summary Of Work: The work covered by this section consists of milling bituminous pavement at locations, depths, widths, and typical sections indicated in the plans and special provisions or as directed by the Engineer. Removing, transporting, and disposing of the milled material and cleaning the milled pavement surface is incidental.

B. Determination of Measurement: The quantity of milled bituminous pavement and incidental milling to be paid for will be the actual number of square yards of pavement surface which has been milled to depth indicated on drawings in accordance with the requirements of the contract. In measuring this quantity, the length and the width shall each be measured along the pavement surface in the field.

C. Basis of Payment: The quantity of milled bituminous pavement will be paid for at the contract unit price per square yard for "Milling Bituminous Pavement" or "Incidental Milling" as the case may be.

PART 2 PRODUCTS

2.01 EQUIPMENT

A. Equipment shall include a self-propelled unit capable of removing the existing bituminous pavement to the depths, widths, and typical sections shown in the plan, special provisions or as directed by the Engineer. The equipment shall have been designed and built exclusively for pavement milling operations and shall have sufficient power, traction, and stability to accurately maintain depth of cut and slope. The milling machine shall be equipped with a grade control system which will automatically control the longitudinal profile and cross slope of the milled surface by the use of one or more skid sensors moving along the pavement surface. The machine shall be capable of leaving a uniform surface suitable for handling traffic without excessive damage to the underlying pavement structure. The milling machine and other loading equipment shall be capable of loading milled material to be used in other parts of the work without excessive segregation. The milling machine must be on tracks, not wheels.

B. Additional equipment necessary to satisfactorily remove the pavement in the area of manholes, water valves, curb and gutter, and other obstructions shall be provided.

C. The milling equipment shall be equipped with a means of effectively limiting the amount of dust escaping from the removal operation in accordance with local, State and Federal air pollution control laws and regulations.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Shall include milling and re-milling the pavement, cleaning the milled surface, loading, hauling, stockpiling the milled material for use in recycled bituminous mixtures and disposal of any excess milled materials. Any equipment necessary to remove asphalt in the

areas of manholes, water valves, curb and gutter and any other obstructions shall be part of milling contract price.

B. Tolerance: Removal of the existing pavement shall be to the depth required by the plans or project special provisions. The Engineer may vary the depth of milling by not more than one inch.

C. The existing pavement shall be milled in a manner which will leave the remaining pavement surface in a uniform longitudinal profile and cross section at the locations and in accordance with typical sections shown in the plans. Where indicated in the plans or project special provisions, removal shall be to a specified depth and shall produce a specified cross slope. The Contractor shall mill intersections and other irregular areas as indicated in the plans, project special provisions, or as directed by the Engineer.

D. The Contractor may elect to make multiple cuts to achieve the required depth of cut or cross slope required by the plans.

E. The longitudinal profile of the milled surface shall be established by a mobile string line on the side of the cut nearest the centerline of the road or as directed by the Engineer. The cross slope of the milled surface shall be established by an automatic cross slope control mechanism or by a second skid sensing device located on the opposite edge of the cut. The Engineer may waive the requirement for automatic grade and cross slope controls where conditions warrant.

F. The milling equipment shall be operated in such a manner as to prevent damage to the underlying pavement structure, utilities, drainage facilities, curb and gutter, paved surfaced outside the milled area, and reasonably smooth and free of excessive scarification marks, gouges, ridges, continuous grooves, or other damage as determined by the Engineer. Any leveling or patching required as a result of negligence by the Contractor shall be repaired with hot bituminous plant mix at no cost to the City of Fayetteville and in a manner acceptable to the Engineer. The Contractor shall coordinate the adjustment of manholes, meter boxes and valve boxes with the milling operation.

G. Milling limits will be determined by Engineer before operation begins.

H. The milled material shall become the property of the Contractor. All milled material shall be legally disposed of by the Contractor in areas provided by him which are outside the right-of-way, except where the milled material is used in the work. Milled material must be removed and disposed of on the same day.

I. Inspector must be present during milling.

J. The Engineer may require re-milling of any area exhibiting defects such as lamination or other defects. If the defects are determined to be the result of the Contractor's negligence, then measurement of the re-milling, as specified in Unit Prices, will not be made. If, however, the Engineer directs the re-milling of an area which is not due to the Contractor's negligence, measurement of the re-milled area will be made under provisions of Unit Prices.

K. The milled pavement surface shall be thoroughly cleaned of all loose aggregate particles, dust and other objectionable material by the use of power brooms, power blowers, power vacuums or other means. Disposal or wasting of oversized pavement or loose aggregate material will not be permitted within the right-of-way.

L. The pavement removal operations shall be conducted to effectively minimize the amount of dust being emitted. The operations shall be planned and conducted so that it is safe for persons and property adjacent to the work including the traveling public.

Pay Item	**Pay Unit**
Milling Bituminous Pavement	SY

END OF SECTION 00440

SECTION 00445

PAVEMENT JOINT SEALER

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of the furnishing and placement of joint sealer material in accordance with these specifications.

B. Determination of Measurement: Measure total number of pounds of joint sealer placed on the roadway.

C. Basis for Payment: Payment will be on a contract unit price per pound of joint sealer placed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Joint sealer shall be hot poured rubber asphalt conforming to AASHTO M 173, except:
   1. Flow test at 140 degrees F shall not exceed 1.0 CM.
   2. Bond test shall be performed at minus 20 degrees F.

B. Ductility shall be not less than 40 CM when tested in accordance with ASTM D113

C. The joint sealer shall be free of all foreign material. When melted it shall be free of lumps. The composition of the material shall be a mixture of virgin rubber, synthetic rubber, or a combination of both, with asphalt, plasticizers, and tackifiers. Under no circumstances shall ground cured rubber scrap be used in place of virgin or reclaimed rubber.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Material, equipment, labor, clean up and all associated appurtenances for installation of pavement joint sealer.

B. Construction Methods: All existing pavement cracks in excess of 1/8 inch but not more than 1 ½ inches will be cleaned using a hot compressed air lance. The cracks shall be sealed with hot poured rubber asphalt meeting the requirements with these specifications.

C. The joint sealer shall be allowed to dry tack free prior to placing traffic on a sealed area of roadway. Apply DeTack (brand name) or equivalent to remove tackiness. Material shall be placed using the wand followed by a "V- shaped" asphalt squeegee. This method will allow uniform filing of the cracks and reduce excess material due to over-banding.

D. The Contractor shall provide all traffic control in accordance with the Manual on Uniform Traffic Control Devices.

Pay Item	**Pay Unit**
Pavement Joint Sealer	Lb.

END OF SECTION 00445

SECTION 00450

PLANT MIX BITUMINOUS CONCRETE SURFACE COURSE
AND
BITUMINOUS CONCRETE BASE COURSE
(TYPE B 25.0 C; TYPE I 19.0 C; TYPE S 9.5 B; TYPE S 9.5 C)

PART 1 GENERAL

1.01 SECTION INCLUDES

A. PROPOSED PAVEMENT

1. DETERMINATION AND BASIS FOR PAYMENT

a. Determination of Measurement: Measurement shall be per ton of each type placed. Certified weighmaster tickets shall be provided by contractor. Must be provided within 24 hours

b. Basis for Payment: Payment on a contract price per ton.

B. REMOVE EXISTING PAVEMENT

1. DETERMINATION AND BASIS FOR PAYMENT

a. Determination of Measurement: By the square yard of existing pavement removed. The existing pavement shall be measured by the Engineer prior to its removal

b. Basis for Payment: Payment will be on a contract unit price per square yard for removal and proper disposal of existing pavement.

C. REMOVE AND REPLACE ASPHALT DRIVEWAYS (no overages allowed)

1. DETERMINATION OF MEASURMENT AND BASIS FOR PAYMENT

a. Determination of Measurement: Measurement shall be to the nearest one-tenth square yards. The designated number of square yards to be removed shall be on the plan or as directed by the Engineer.

b. Basis for Payment: Payment shall be on a contract unit price bid per square yard completed and accepted with a minimum thickness of two (2) inches or matching existing asphalt thickness, whichever is greater.

1.02 REFERENCES

A. The *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions, will govern the work under these specifications except as they are modified hereinafter.

B. Quality Management System for Asphalt Pavements: The Contractor shall produce and construct asphalt mixtures and pavements in accordance with a quality management system as described in Section 609 of the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions. The Contractor shall submit only NCDOT approved mix design which must be approved by the Engineer prior to delivery. Perform all quality control activities in accordance with NCDOT "Hot Mix Asphalt Quality Management System (HMA/QMS)" Manual.

1.03 ENVIRONMENTAL REQUIREMENTS

A. Weather Limitations:

1. Bituminous mixtures shall not be produced or placed during rainy weather, when the sub-grade or base course is frozen, nor when the moisture on the surface to be paved would prevent proper bond.

B. Temperature

1. Bituminous material shall not be placed when the air temperature, measured in the shade away from artificial heat at the location of the paving operations, is less than the following temperatures:

Allowable Ambient Temperatures		
Material Type	Minimum Air Temperature	Minimum Road Surface Temperature
ACBC, Types B 25.0C, B 37.5 C, PADC, ACIC, Types I 19.0C	35-degree F (2 degree C)	35-degree F (2 degree C)
ACSC, Types S 4.75A, SF 9.5B, ACSC, Types S 9.5C	40-degree F (5 degree C)	40-degree F (5 degree C)
Final layer of surface mixes containing recycled asphalt shingles (RAS)	50-degree F (10 degree C)	50-degree F (10 degree C)

2. An exception to the above, when in any day's operations the placement of a layer of bituminous base course material or binder material 2" or greater in thickness has started, it may continue until the temperature drops to 32 degrees Fahrenheit (F).

C. Seasonal

1. Surface course material, which is to be the final layer of pavement, and Open-graded asphalt friction courses (OGAFC) shall not be placed between December 15 and March 16 unless otherwise approved by the Engineer.

PART 2 PRODUCTS

2.01 MATERIALS

A. Bituminous Plants Production: All bituminous plants shall meet specification 610 of the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions. All bituminous plants shall have a current and up to date certification of the asphalt plant on file with the City of Fayetteville

B. All bituminous base courses and surface course mixes that are to be use within the rights-of-way of the City of Fayetteville shall be NCDOT approved and have all job mix formulas on file with the City of Fayetteville. No other bituminous mixes will be acceptable. Must submit mix design for the project.

C. All binder shall meet the appropriate requirements of Section 610 of the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions.

PART 3 EXECUTION

3.01 PROPOSED PAVEMENT

A. The work covered by this section consists of the production, delivery, placement and compaction of all types of bituminous plant mixed bases and surface courses.

B. Construction Requirement: The production, spreading, finishing, weather limitation, joints, compaction, density and surface requirements shall be in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions.

C. Transportation of Bituminous Mixture: The mixture shall be transported from the mixing plant to the point of use in vehicles which have tight, clean, smooth metal beds that have been sprayed with a lime solution, a soap and oil solution, or other approved material, to prevent the mixture from adhering to the beds. Fuel oil is not permitted for this purpose. Truck beds shall be drained prior to loading. Each load of mixture shall be fully covered with a canvas or other suitable material. All covers shall be so constructed and secured as to prevent the entrance of moisture and the rapid loss of temperature. A 3/8-inch diameter hole shall be provided on each side of the vehicle body near the

center of the body and 6 inches above the bed of the vehicle for the purpose of inserting a thermometer.

D. The temperature of the mixture immediately prior to discharge from the hauling vehicle shall be within a tolerance of plus 15 degrees F to minus 25 degrees F of the specified job mix temperature.

TABLE 610-1 MIXING TEMPERATURE AT THE ASPHALT PLANT	
Binder Grade	JMF Temperature
PG 64-22	300°F
PG 70-22	315°F
PG 76-22	335°F

E. Staff: The contractor is required to have a certified Roadway Technician with each paving operation at all times. This person is responsible for monitoring all roadway paving operations and directly supervising all quality control processes and activities. Provide a certified nuclear gauge operator when nuclear density control is being used. Provide the City of Fayetteville with an organizational chart, including names, telephone numbers, and current certification numbers of all personnel responsible for the quality control program while asphalt paving work is in progress.

F. Utilize the 30-foot minimum length mobile grade system to control longitudinal profile when placing the initial lanes and all adjacent lanes of all courses, including resurfacing, leveling courses, and asphalt in-lays, unless otherwise approved by the Engineer. Where public traffic is being maintained, apply only as much tack coat as can be covered during the same day's operation. In addition, the Engineer may limit the application of tack coat in advance of the paving operation depending on traffic conditions, project location, proximity to business or residential areas, or other reasons. In the event that tack coat material is not covered in the same day's operation; the Engineer may require the application of suitable granular material or other means to provide a safe traffic condition at no additional cost to the City of Fayetteville. The contractor will be responsible for any clean-up of the materials that was placed at no cost to the City of Fayetteville.

G. Contractor will furnish with each load of asphalt a scale ticket by a certified weigh master showing the amount of asphalt on the truck. Contractor will be paid on a unit price per ton of asphalt that is actually placed and rolled to a finish asphalt surface or base course.

H. The Engineer may prohibit or restrict the use of vibratory rollers where damage to the pavement being placed, the underlying pavement structure, drainage structures, utilities, or other facilities is likely to occur or is evident.

I. The final surface course material shall be compacted using two steel-wheel rollers and a pneumatic tired roller. For any paving operations, two rollers required on site.
    1. Initial rolling shall be achieved using an 8-to-10-ton steel wheel roller.
    2. Intermediate rolling shall be achieved using a pneumatic tired roller.
    3. Final rolling shall be achieved using an additional steel wheel roller.

J. Surface Smoothness:
    1. Base Course – 1/4" in 10 feet.
    2. Surface Course – 1/8" between any two contact points, 10-foot straight edge.

3.02 SPECIAL CONSIDERATION

A. Traffic Loops: Contractor shall install loops before final layer, no later than five (5) days from when milled or as approved by the Engineer.

3.03 REMOVE EXISTING PAVEMENT

1. The work covered by this section shall include labor, equipment, tools, saw cutting, legal disposal, and all other incidentals necessary to complete the work.

3.04 REMOVE AND REPLACE ASPHAULT DRIVEWAYS

1. Work: Saw cutting and removal of the existing driveway, removing and disposing of excess or unsuitable materials off-site, furnishing, hauling, fine grading the sub-grade, compaction, placing all materials, forms and all equipment, tools, labor, and incidentals necessary to complete the work. Replacement of the drive shall be to existing or better condition.

Pay Item	**Pay Unit**
Plant Mix Bituminous Concrete	TN
Removal Existing Asphalt	SY
Remove and Replace Asphalt Driveway	EA

END OF SECTION 00450

SECTION 00451

PERMANENT PAVEMENT PATCH

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of furnishing and applying Permanent Pavement Patch in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, latest edition and revisions, hereinafter referred to as the NCDOT Specifications, except where modified in this specification.

B. Determination of Measurement:

1. For Annexation projects, permanent pavement patch length shall be measured in the field, and width shall be determined using the following chart. Any pavement removed or damaged beyond the width limits specified below shall be replaced by the Contractor at his own cost unless directed otherwise by the Engineer. No overages allowed.

Maximum Payment Widths for Annexation Pavement Trench Patch

Utility Type	Conditions	Patch Width Payment
Storm Drainage	≤ 24" pipe	6'
Storm Drainage	30" – 42" pipe	8'
Storm Drainage	48" – 54" pipe	10'
Storm Drainage	≥ 54" pipe	12'
Sanitary Sewer	≤ 10' depth to invert of pipe	10'
Sanitary Sewer	>10' depth to invert of pipe	12'
Sewer Laterals		6'
Water Mains		4'
Water Services		4'

2. For all other projects Quantity shall be to the nearest one-tenth square yards as measured in the field.

C. Basis of Payment: Permanent Pavement Patch will be paid for at the contract unit price per square yard.

PART 2 EXECUTION

2.01 INSTALLATION

A. Labor, materials, tools, and equipment necessary to complete the work which shall include saw cutting (NO WHEEL CUTTING ALLOWED) pavement to straight uniform widths

parallel and perpendicular to the road with no jagged edges, removal and disposal of asphalt offsite, removal and disposal of temporary patch material, re-compaction, removing and disposing of excess soil base course, re-compaction of pavement sub-grade, placement and compaction of ten inches of ABC, maintaining ABC as necessary to maintain stone at pavement grade until removal of upper two inches of stone for paving, adjusting castings as required, tack coat, placing and compacting asphalt material, cleanup and all other incidental work as shown on the details.

B. All work shall be performed with the appropriate traffic control standards and in accordance with the latest edition of MUTCD and City Standards.

C. At any areas of settlement contractor shall be required to remove installed patch, re-compact base and sub-base, dispose of unsuitable material off-site, and re-patch at no expense to the Owner.

D. Prior to paving, vertical transitions shall be made to accommodate road travel at no additional cost to the Owner.

E. Contractor shall repair any pavement markings, signal loops and any other traffic device damaged during work.

F. Incidental Repairs

1. Gravel or Soil Driveways: Existing gravel and/or soil driveway shall be replaced with six-inch-thick stone; compacted Aggregate Base Course (ABC) or whichever matches existing type stone. Replacement of the drive shall be to existing or better condition. Installation of Aggregate Base Course shall comply with Section 00420.

2. Concrete Driveways and Sidewalks: After completion of the excavation, etc., any trench or opening in any street or sidewalk shall be properly backfilled following City standards for compaction. The material used in replacing the surface course shall be of the same type and thickness and equal in quality to that which was removed. Excavatable flowable fill in accordance with the City's specifications may be used instead of backfilling from the invert to the base layer elevation at the discretion of the Engineer. Installation Concrete shall comply with Section 00455.

G. City Ordinance Chapter 24, Article 11: Any street that is degraded 25% or greater between intersection shall be overlayed with a minimum of 1 inch of asphalt for the entire length between the intersecting streets. Percentage of degradation will be determined prior to excavation including existing and new degradation. A temporary patch flush with the existing asphalt elevation is to be used for one year to allow settlement prior to final asphalt layer. The contractor may elect to pay in-lieu-of overlay in accordance with the City's fee schedule. For additional requirements on excavation in the right of way, refer to City Ordinance Chapter 24, Article 11.

PART 3 PRODUCTS

3.01 PERMANENT PAVEMENT MATCH MATERIALS

A. Materials shall comply with Sections 00420 and 00450

Pay Item	Pay Unit
Permanent Pavement Patch	SY

END OF SECTION 00451

SECTION 00452

EMULSIFIED ASPHALT SLURRY SEAL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of furnishing and applying and emulsified asphalt slurry seal in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, latest edition and revisions, hereinafter referred to as the NCDOT Specifications, and these Special Provisions.

B. Determination of Measurement: Measurement shall be in square yards installed as measured in the field.

C. Basis of Payment: The quantity of emulsified slurry seal will be paid for at the contract unit price per square yard.

1.02 REFERENCES

A. The NCDOT Specifications will govern in its the work under these specifications except as they are modified hereinafter.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt Emulsion: The emulsified asphalt shall conform to the requirements of Section 1020 of the NCDOT Specifications.

B. Quick Setting Emulsion: Quick setting emulsion shall be used and the following requirements shall apply:

1. The emulsion shall meet the requirements of Cationic Type CRS-1H of ASTM D 2397. Each change in formulation requires a test as referenced in NCDOT Specifications indicated above.

C. Fine Aggregate: Fine aggregate shall be polish resistant natural or manufactured sand, slag, or a combination thereof. The quality of fine aggregate shall conform to the requirements of Section 1014 of the NCDOT Specifications.

D. Mineral Filler: Mineral filler shall conform to the requirements of Section 1012.1 the NCDOT Specifications.

E. Water: Water used in the mix shall conform to the requirements of Section 1024.4 of the NCDOT Specifications.

F. Mix Requirements: The Contractor shall submit to City of Fayetteville a mix design and results of the wear loss by the Wet Track Abrasion Test (WTAT) as prepared by an approved testing laboratory. The WTAT will be performed in accordance with ADSTM D 3910. The wear loss by the WTAT shall not be greater than 100 grams per square foot. The wear loss shall apply to the asphalt content limits designated on the job mix formula.

1. The Contractor shall place a test strip for approval by the Engineer prior to beginning the work. Once the consistency of the mix has been approved by the Engineer, the total water content shall be maintained within 3 percent of the approved blend during the course of operation.

2. The gradation of the mix produced shall conform to the job mix range. The residual asphalt content by dry weight of aggregate shall not vary more than 1.5 percent from the approved mix design.

JOB MIX RANGE	
TYPE SIEVE SIZE	C PERCENT PASSING
3/8”	100
# 4	90-100
# 8	70-90
# 16	32-54
# 30	23-38
# 50	16-29
# 100	9-20
# 200	5-15

G. Sampling Requirements: Samples for gradation will be taken from aggregate stockpiles designated by the Contractor for use. Samples for asphalt content and total water content shall be taken from the completed mixture. Samples of aggregate, filler, and emulsion for WTAT will be taken from the job site. The frequency of sampling and testing will be established by the Engineer.

2.02 EQUIPMENT

A. General: All equipment and tools used in the performance of this work shall be furnished and maintained in satisfactory working condition. The mixing and spreading equipment shall be combined in a single mobile operating unit. A burlap drag approximately 19 inches wide shall be attached to the back of the unit for the purpose of smoothing the slurry seal.
   1. The mobile unit shall be equipped with an approved feeder which will accurately meter or otherwise introduce a predetermined amount of material into the mixer simultaneously with the aggregate. The feeder shall be used whenever mineral fill is added to the mix.
   2. The mobile unit shall be equipped with a water pressure system and fog spray bar capable of completely fogging the surface to which slurry seal is to be applied.
   3. The mobile unit shall be capable of an operative speed of at least 60 ft/min and have sufficient storage capacity to mix and apply a minimum of 5 tons of slurry.

B. Mixer: The mixer shall be a continuous flow type mixer and shall be capable of delivering water and a predetermined proportion of aggregate and asphalt emulsion to a revolving multi-blade mixer tank. The mixer shall discharge the thoroughly mixed product on a continuous basis. The blades of the mixing unit shall be capable of thoroughly blending all ingredients.

C. Spreader: The spreader shall be equipped with a flexible type squeegee positioned in contact with the pavement surface. The spreader shall be designed to apply a uniform spread with a minimum loss of slurry.

D. Auxiliary Equipment: Hand squeegees, shovels, and other hand equipment shall be provided as necessary to perform work in areas which are inaccessible to the unit.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Shall include cleaning, loading, hauling, equipment, labor, compaction, material and any other incidentals required for installation.

B. The Contractor shall notify the Engineer at least five (5) working days prior to beginning work. The Contractor shall give the Engineer sufficient notice of all operations for any sampling, inspections or acceptance testing required.

C. Preparation of Surface: the surface upon which slurry seal is to be applied shall be thoroughly cleaned of all loose material, vegetation, silt spots, and other objectionable materials immediately preceding application by either brooming or the use of compressed air.

D. Application: Aggregate shall be wetted immediately prior to mixing with the emulsion. The Engineer may direct that the surface of the pavements be fogged with water (approximately 0.05 gallon per square yard) immediately preceding the pass of the spreader. The slurry mixture shall be of a consistency such that it "rolls" in the spreader box in a continuous mass. Slurry that segregates in the spreader box, so that flowing of liquids (water and emulsion) is evident, is not acceptable and shall not be applied. The liquid portion of slurry mixture shall not flow from either the spreader box or the applied slurry. Evidence of such flow shall be sufficient cause for rejection of the applied material. The slurry shall be placed on the road in full lane widths up to and including 12 feet. A mechanical device such as an auger shall be used to distribute the slurry mix in the spreader box.
   1. Excess buildup of slurry on longitudinal and transverse joints shall be corrected.
   2. Treated areas shall not be opened to traffic until such time as the slurry seal has cured to the extent that it will no longer be damaged by traffic. The applied slurry mixture shall be uniform in texture and shall not flush under traffic. Any areas not considered satisfactory by the Engineer shall be corrected by the Contractor at no additional cost to the City of Fayetteville. Nothing contained herein is intended to relieve the Contractor from sharing in the responsibility and performance of the treatments, should a failure occur prior to acceptance of the contract.
   3. Slurry Seal surface shall not be applied on surfaces containing ponding water and the minimum surface temperature shall be 50 degrees F.
   4. The Engineer may require the surface area to which the slurry has been applied by hand to be rolled using a pneumatic-tire roller. The roller shall be operated at an approximate tire pressure of 50 pounds per square inch and the paved area shall be subjected to a minimum of two coverages.
   5. Should oversize aggregate be encountered in the stockpile, the Contractor shall immediately cease operations and remove the oversize aggregate by screening.

E. Thickness of Application: The average minimum thickness of application shall not be less than 5/16" for Type C unless otherwise specified.

Pay Item	**Pay Unit**
Emulsified Asphalt Slurry Seal	SY

END OF SECTION 00452

SECTION 00455

CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This work shall consist of Portland cement concrete combination curb and gutter, sidewalk, sidewalk flumes, blended transitions, and driveway constructed on a prepared sub-grade, in one course, in conformity with the lines, grade and typical cross section shown on the plans and in accordance with these specifications.

B. MEASUREMENT AND BASIS FOR PAYMENTCONCRETE CURB AND GUTTER

a) Determination of Measurement: The quantity to be paid for in this section shall be the actual number of linear feet of combination curb and gutter measured in place, completed and accepted. This measurement of curb and gutter shall be along the top of the curb.

b) Basis for Payment: Payment shall be on a contract unit price per linear foot.

C. REMOVE AND REPLACE CONCRETE CURB AND GUTTER

a) Determination of Measurement: Measurement shall be per linear foot. Measurement of the curb and gutter shall be along the top of the curb excluding catch basin openings.

b) Basis for Payment: Payment shall be on a contract unit price per linear foot.

D. CONCRETE SIDEWALK (thickness")

a) Determination of Measurement: The quantity shall be measured in square yards of concrete sidewalk in place, completed and accepted.

b) Basis for Payment: Payment shall be on a contract unit price per square yard. The amount of grade work required to obtain the proper sub-grade from the finished grade of the sidewalk will be included as part of the per square yard price for concrete sidewalk.

E. REMOVE EXISTING SIDEWALK

a) Determination of Measurement: By the square yard of the existing sidewalk removed. The existing walks shall be measured by the Engineer prior to its removal.

b) Basis for Payment: Payment will be on a contract unit price per square yard for removal and proper disposal of existing sidewalks.

F. REMOVE AND REPLACE CONCRETE SIDEWALK

a) Determination of Measurement: Measurement shall be in square yards of installed sidewalk measured in the field.

b) Basis for Payment: Payment shall be on a contract unit price bid per square yard installed.

G. CURB RAMP

a) Determination of Measurement: per each by the number installed (per type).

b) Basis of Payment: Payment will be for the contract unit price for curb ramps installed.

H. REMOVE AND REPLACE CONCRETE DRIVEWAYS

a) Determination of Measurement: Measurement shall be to the nearest one-tenth square yards. The designated number of square yards to be removed shall be on the plan or as directed by the Engineer.

b) Basis for Payment: Payment shall be on a contract unit price bid per square yard per specified thickness.

I. CONCRETE DRIVEWAY APRON (X")
   a) Determination of Measurement: By square yard per thickness specified by the Engineer. Measurement from back of curb to edge of apron.
   b) Basis of Payment: Payment shall be per square yard installed.

J. CONCRETE SIDEWALK FLUMES
   a) Determination of Measurement: Measurement shall the number of flumes constructed.
   b) Basis of Payment: Payment of Concrete Sidewalk Flume shall be paid per each for the number of constructed flumes measured.

K. BLENDED TRANSITION
   a) Determination of Measurement: Blended Transitions shall be measured in the field by number of blended transitions constructed.
   b) Basis of Payment: Payment of Blended Transitions shall be paid per each for the number of constructed blended transitions measured.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cement: The cement used in this item shall be a standard brand of Portland cement or high-early-strength Portland cement conforming to the requirements of AASHTO Specifications. Different brands of cement, or the same brand from different mills, shall not be mixed nor shall they be used alternately in any one continuous pouring between transverse joints.

B. Concrete Joint Sealer: See NCDOT Section 1028 Joint Materials

C. Concrete: The concrete shall be an approved NCDOT certified mix.

2.02 SOURCE QUALITY CONTROL

A. Testing: The Engineer shall engage and pay an approved independent testing agency to conduct the routine testing of material for compliance in accordance with ACI 301.

B. Test reports shall be furnished to the Engineer at the earliest possible date following the testing.

C. If cylinder test results indicate that the concrete has not or will not reach the required 28day compressive strength, the Engineer shall have the right to require any additional testing as necessary to determine the actual in-place strength of the concrete. Such additional testing will be at the Contractor's expense.

D. The Engineer shall have the right to require the removal and subsequent replacement of any concrete not meeting the minimum 28-day compressive strength. Such removal and replacement shall be at the Contractor's expense.

2.03 DESIGN REQUIREMENTS

A. Proportioning of Concrete: The concrete shall be mixed in proportions approved by the Engineer. The concrete shall develop at 28 days a minimum compressive strength of 2,500 pounds per square inch (Class B). The consistency range in slump of the concrete shall be two to four inches.

B. Air Entrainment of Concrete: All exposed concrete shall have 6 percent (+ or - 1.5 percent) entrained air as discussed in ASTM C 494. Measurement shall be with a roll-meter in accordance with ASTM C173 or a pressure meter in accordance with ASTM C 231. Use of other testing procedures will be considered if requested in writing.
   a) The concrete from a central plant shall be delivered by a mobile agitator type mixer and deposited at the consistency specified without segregation. The time lapsing from mixing to placing the concrete shall be in accordance with NCDOT requirements.
   b) Concrete shall be mixed only in such quantities as are required for immediate use and all such material shall be used while fresh and before initial set has taken place. Any concrete in which set has begun shall not be used in the work. Re-tempering of concrete will not be allowed.

C. Finished grade of the sidewalk shall be based on the top of curb elevation.

2.04 ENVIRONMENTAL REQUIREMENTS

A. Cold Weather and Night: Concreting shall be done when weather conditions are favorable unless otherwise directed by the Engineer. Concrete operations shall be discontinued when the temperature of 40° Fahrenheit is reached on a falling thermometer. No concreting shall be attempted when local weather bureaus indicate temperatures below freezing within the ensuing 24 hours unless proper precautions are made to protect concrete by covering with straw and plastic or other thermal insulation satisfactory to the Engineer. The Contractor shall be responsible for the quality and strength of the concrete laid during cold weather and any concrete damaged by frost action or freezing shall be removed and replaced as directed by the Engineer at the Contractor's expense.
   a) No more concrete shall be laid than can be properly finished and covered during daylight, unless adequate artificial light satisfactory to the Engineer is provided.

PART 3 EXECUTION

3.01 WORK

A. Concrete: The work Shall include furnishing, hauling, and placing all materials, fine grading of sub-grade, installation and removal of forms, compacting subgrade, truncated dome, soil amendments, backfilling behind curb with topsoil, all equipment, tools, curing and labor and incidentals necessary to complete the work.
B. Removal of Existing Sidewalk: The work of the removal of existing sidewalk shall include labor, equipment, tools, saw cutting, legal disposal, and all other incidentals necessary to complete the work.
C. Removal of existing Concrete Curb: The work of the removal and disposal of existing concrete curb shall include furnishing, hauling, fine grading sub grade, compacting sub grade, seeding, backfilling behind curb with topsoil, adding soil amendments, placing all materials, and all equipment, materials, tools, labor, and incidentals necessary to complete the work
D. Remove and Replace Concrete Driveway: The work of the removal and replacement of concrete driveways shall include saw cutting and removal of the existing driveway, removing and disposing of excess or unsuitable materials off-site, furnishing, hauling, fine grading the sub-grade, compaction, expansion joint materials, curing and placing all materials, forms and all equipment, tools, labor, and incidentals necessary to complete the work. Replacement of the drive shall be to existing or better condition.
E. Remove and Replace Concrete Sidewalk: The work of the removal and replacement of concrete sidewalk shall include saw cutting and removal to the nearest joint, proper disposal of the existing concrete sidewalk and unsuitable materials, compaction, furnishing, hauling,

and placing all materials, fine grading the sub-grade, installation of necessary expansion joints, installation and removal of forms, concrete placement, curing and all equipment, tools, labor, and incidentals necessary to complete the work.

3.02 PREPARATION

A. Erosion Control measures shall be installed in accordance to the project plans and section 00401.

B. Traffic Control measures shall be installed in accordance to the project plans and section 00491..

3.03 INSTALLATION

A. Sub-grade: The sub-grade shall be excavated to the required depth below the finished surface in accordance with the plans and lines and grades established by the Engineer. All soft and yielding material or other unsuitable material shall be removed and replaced with approved material and compacted thoroughly. If the sub-grade is in a filled section, the entire area shall be compacted to an unyielding surface.

B. Forms: Forms shall be set true to the lines and grades established by the Engineer. Sections less than 5 feet will not be accepted. Forms shall be held rigidly in position and shall be of sufficient strength to resist springing out of line when the concrete is placed. Forms shall be metal of the necessary dimensions to construct the combined curb and gutter, sidewalk or driveway shown on the drawings or specified. Wood forms may be used only where conditions make the use of metal forms impractical, and then only when approved by the Engineer. Forms for straight curb and gutter or radius curb and gutter having a radius of 350 feet or over shall be of steel of an approved type. Bent steel forms or steel forms with top or bottom flanges out of square sides or forms without pin lugs shall not be used and shall be removed from the construction site. Flexible steel forms shall be used on all radius curb having less than a 350-foot radius.

C. Prior to placing of concrete, the sub-grade shall be moistened, and the contact side of the forms shall be coated with a heavy oil. After the placing of the concrete within the forms, the sides of the forms shall be spaded with a flat spade of approved type. All voids that may appear after forms have been removed, shall be wetted thoroughly and plastered. An excess of voids will be cause for rejection. A slip form concrete machine may be used only on a trial basis and must meet the approval of the Engineer

D. Placing of Concrete (Curb and Gutter): The curb and gutter shall be constructed in place in uniform sections 10 feet in length. The joints between sections shall be formed by steel templates 3/16 inches in thickness. Templates shall conform strictly to the curb and gutter section. All joints shall be at right angles to straight curb and in radius line in radius curb. Any broken edges or joints may be cause for rejection. Templates must be pulled halfway out before concrete is set in order that concrete may run under the template. After concrete is set and while the forms are still in place, the templates are to be completely removed. When a curbing machine is used, the Contractor should use all precautions to prevent curb from settling when first starting, especially when grade is critical (below 1 percent). Contractor shall check grade on new poured curb before concrete has set so that correction can be made to the flow line of the curb.

   a) Expansion joints of approved material for curb and gutter shall be provided every 90 feet or as directed by the Engineer. Joint material shall be not less than ½ inch in thickness, cut true to section, and shall be placed against the steel template forming the joint. Care shall be taken not to disturb the position of the expansion joint filler material during the removal of the templates.

E. Placing of Concrete (Driveways, Sidewalks, Curb Ramps, Blended Transitions, Flumes and Trails): Thickness shall be minimum of 4 inches for residential driveway aprons and 6 inches for commercial driveway aprons. Expansion joints of approved material shall be provided every 50 feet and contraction joints every 5 feet or as directed by the Engineer. Joint material shall be not less than ½ inch in thickness, cut true to section, and shall be placed against the template forming the joint. Care shall be taken not to disturb the position of the expansion joint filler materials during the removal of the templates. Seal expansion joints where sidewalk and curb ramps are placed adjacent to concrete curb and/or gutter. **Seal all joints to include expansion and contraction joints**.

F. Placing of Concrete Sidewalk flumes
   a) Concrete Sidewalk flumes shall be installed per DR-22.
   b) Metal Treadplates shall be installed by instruction on DR-22. Treadplate materials shall be submitted to the Engineer or designee for approval prior to installation. Treadplates shall be installed so that the back of the plate is behind the handrail installed adjacent or extends 6" beyond the sidewalk. The front of the tread plate shall be installed so that it is flush with the face of the curb, even when installed with utility strip.
   c) Handrails for Flumes shall be measured and paid independently. Refer to Section 02832 for handrail specification.

G. Placing of Concrete Curb Ramps, Blended Transitions and Truncated domes
   a) Curb Ramps shall comply with the installation of sidewalk in this section. Each Ramp type is broken down in SD-2 through SD-2.9. Curb Ramps and Blended Transitions shall be installed to meet technical requirements in Chapter 3 of the Public Right of Way Accessibility Guidelines
      a. The type of curb ramp called for in the plans shall be constructed unless alternate ramp is approved by the Engineer or designee.
      b. All Ramps or Blended Transitions shall be installed 4 inches thick unless otherwise specified by the Engineer or designee.
      c. Truncated Domes for all Curb Ramps or Blended Transitions shall be installed per SD-2.6.
         1) Truncated domes are a detectable warning device that shall be installed anywhere there is an absence of vertical separation from the traffic surface.
         2) Installation should also comply with R305 of the Public Right of Way Accessibility Guidelines.

H. Finishing: All concrete within forms shall be brought to true section by the use of an approved straight edge and shall be tamped with straight edge to bring mortar to the surface, after which it shall be floated smooth by means of wood floats. No steel floats will be permitted. After true surface of section has been obtained, and after initial set has taken place, the entire surface shall be broom finished with a dampened broom. Broom finished in direction of flow, all joints and all exposed edges shall be rounded off with approved jointing and edging tools.

I. Curing: Immediately after finishing operations have been completed, the entire surface of the concrete shall be sprayed with white curing compound (type 11 white pigment). The use of liquid retarding agents shall conform to standards specified by current AASHTO or ASTM specifications.

J. Removal of Forms: Forms shall not be removed from freshly placed concrete until it has set for at least 24 hours. They shall be carefully removed and in such a manner as to prevent damage to the edges of the concrete. Honeycombed areas shall be promptly filled with mortar composed of one part cement and two parts sand.

K. Prior to the acceptance of the work, unsightly objects such as stones, stumps, limbs, roots, concrete, etc., shall be removed from the site and disposed of to the satisfaction of the

Engineer. Work shall not be considered complete until all cleaning up has been done and the site is of a neat appearance

3.04 FIELD QUALITY CONTROL

A. The Engineer shall have the authority to require the Contractor to remove and replace any curb and gutter, sidewalk, or driveway which has been placed at grade elevations other than those shown on the plans and/or cut sheet. The finished grade of sidewalk is based on the top of curb. Such curbing, sidewalk, or driveway shall be removed and replaced at the Contractor's expense.

B. Curbing, sidewalk, or driveway found to be holding "ponding" water will be removed and replaced at the Contractor's expense.

3.05 PROTECTION OF FINISHED WORK

A. Protection of Concrete: After 24 hours the forms may be removed. Immediately after the forms have been removed and all honeycombed areas repaired, the back of the curb shall be backfilled to prevent under-wash. Traffic shall be excluded from crossing the concrete for a period of approximately 7 days by erection and maintenance of suitable barricades. Contractor shall be responsible for any damage resulting from traffic within the 7-day period and he shall remove and replace any concrete damaged as directed by the Engineer.

Pay Item	**PAY UNIT**
Vertical Concrete Curb and Gutter (width”)	LF
Roll Back Concrete Curb and Gutter (width”)	LF
Concrete Sidewalk (thickness”)	SY
Curb Ramp (SD #)	EA
Concrete Driveway Apron (thickness”)	SY
Concrete Sidewalk Flume	EA
Blended Transition	EA
Removal Existing Concrete	SY
Removal Existing Curb	LF

END OF SECTION 00455

SECTION 00465

VERTICAL ADJUSTMENT OF EXISTING UTLITIES
PORTLAND CEMENT CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of vertical adjustment of existing utilities, to include manhole covers, valve boxes, etc.
B. Determination of Measurement: Measurement shall be for each utility.
C. Basis of Payment: The quantity of utilities adjusted will be paid for at the contract unit price per each adjustment made.

PART 2 PRODUCTS

2.01 Masonry product shall comply with section 04000.

PART 3 EXECUTION

3.01 MANHOLE ADJUSTMENTS

A. Work shall include cleaning, equipment, labor, material, leveling, adjustments and any other incidentals required for installation.

B. Excavate all material from around casting to a width of 12 inches and to a depth of at least 2 inches below existing brickwork, existing structure or valve box. Remove and dispose of all loose material.

C. Raising: The height of any casting adjustment shall be determined by the use of a string line. The string line is to be pulled across casting and for at least 10 feet on each side of casting parallel to curb. Hold string at height of adjustment. Example: 1 inch above existing pavement for resurfacing and/or 2 inches above sand/clay or stone base. Then another string is pulled perpendicular across casting from edge of pavement at curb to center line of street. The string shall be set at same adjustment height. Every effort shall be taken to ensure that the surface course and casting shall provide as smooth a ride as possible.
   1. When setting casting higher than existing, all bricks are to be placed in a "spoke" pattern and laid in a bed of clean fresh mortar. The Contractor is to ensure all brick are set firm to eliminate movement of casting.

D. Lowering: When setting casting lower than existing, all brick and concrete are to be cut away, leaving a smooth surface. A cap of clean fresh mortar shall be applied to surface as a setting bed for casting.
   1. The casting is then placed back on brick and care shall be taken to ensure that it is set on a bed of clean fresh mortar to eliminate movement. Mortar shall meet requirements of North Carolina Department of Transportation Standard Specifications for Roads and Structures current edition and any revisions Section 1040-9 for mortar and Section 1040-7 for mortar sand.

E. The excavated area shall be backfilled with Class B concrete to within 1 to 1-1/2 inches of finished grade. Concrete shall comply with NCDOT mix design. Casting is to be cleaned of any concrete spillage. Asphalt shall not be used to back-fill around casting.

F. All adjustments shall then be protected for at least 24 hours before the placement of any surfacing material. A finish surface tolerance shall not vary more than 1/4 inch in any direction.

G. After casting has been adjusted to grade, all excess debris and mortar shall be removed from manhole or valve box.

3.02 STANDARD UTILITY ADJUSMTENT

A. Utility box adjustments shall be measured and paid per each.

B. Adjustments shall be made so the utility will be flush with the proposed finished surface

C. All excavating, coordination with utility companies, tools, equipment, labor, and materials shall be included in each Standard Utility Adjustment.

D. All adjustments shall then be protected for at least 24 hours before the placement of any surfacing material. A finish surface tolerance shall not vary more than 1/4 inch in any direction.

E. After casting has been adjusted to grade, all excess debris and mortar shall be removed from manhole or valve box.

Pay Item	**Pay Unit**
Manhole Adjustment	EA
Standard Utility Adjustment	EA

END OF SECTION 00465

SECTION 00471

NEW MANHOLE COVERS AND VALVE BOXES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of new manhole cover and valve box installations.
B. Measurement: Measurement shall be the count of number of manhole covers and/or valve boxes installed.
C. Basis of Payment: Payment shall be per unit contract price for each manhole cover and/or valve box installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Manhole covers and valve boxes shall be constructed in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Excavating, backfilling, stone subbase, concrete sections as required for the depth, top adjusting rings, steps, ring and cover, invert and joint sealer.

B. Excavate all material from around casting to width of 18 inches and to a depth of at least 2 inches. Remove and dispose of all loose material.

C. The height of casting adjustment shall be determined by the use of a string line. The string line is to be pulled across casting and for at least 10 feet on each side of casting parallel to curb. Hold string at height of adjustment. Example: 1 inch above existing pavement for resurfacing and/or 2 inches above sand/clay or stone base. Then string is pulled perpendicular across casting from edge of pavement at curb to centerline of street. The string shall be set at same adjustment height. Every effort shall be taken to ensure that the surface course and casting shall provide as smooth a ride as possible.

D. When setting new casting higher than existing, all bricks are to be placed in a "spoke" pattern and laid in a bed of clean fresh mortar. The Contractor is to ensure all brick are set firm to eliminate movement of casting.

E. When setting new casting lower than existing, all brick and concrete are to be cut away, leaving a smooth surface. A cap of clean fresh mortar shall be applied to surface as a setting bed for casting.

F. The casting is then placed back on brick and care shall be taken to ensure that it is set on a bed of clean fresh mortar to eliminate movement. Mortar shall meet requirements of NC DOT Standard Specifications current edition and any revisions, Section 1040-9 for mortar and Section 1014-1 for mortar sand.

G. The exposed brick work and face of the existing asphalt shall be cleaned. The excavated area shall be backfilled with Class B concrete to within 1 to 1-1/2 inches of finished grade. Concrete shall comply with NCDOT mix design. Casting is to be cleaned of any concrete spillage.

H. All adjustments shall then be protected for at least 24 hours before the placement of any surfacing material. A finish surface tolerance shall not vary more than 1/4 inch in any direction.

I. After casting has been adjusted to grade, all excess debris and concrete shall be removed from manhole cover or valve box.

Pay Item	**Pay Unit**
New Manhole Cover	EA
New Valve Boxes	EA

END OF SECTION 00471

SECTION 00472

MANHOLE ADJUSTMENT RINGS

PART 1 GENERAL

1.01 SUMMARY

A. The work covered in this section includes furnishing and installing adjustment rings for manholes requiring a rise of one inch or greater. Adjusting rings less than one inch are not acceptable.

B. Badly damaged or worn castings shall be replaced with new castings provided by OWNER at no cost to the contractor. Contractor is responsible for exchanging castings at the OWNER'S facility.

PART 2 PRODUCTS

2.01 MATERIALS

A. Riser rings shall consist of domestic A-36 steel 3/4-inch thickness steel inner ring, and domestic A-36 1/2-inch thickness steel outer ring. The riser system shall be anchored to the manhole frame to prevent any movement from traffic loads and shall be pre-approved by the Engineer. The adjustment device shall be fabricated from stainless steel, have a positive lock and be in line with the lower bearing bar. It shall be capable of adjustment plus or minus 3/8 inches from nominal.

B. The manhole adjustment ring shall fit within the existing casting without interference and the manhole lid shall have bearing on all of the surface of the inner ring to prevent locking. The lid shall be able to be removed without binding.

C. The inner and outer ring shall be securely welded to prevent any differential movement between the inner and outer rings under traffic loads and shall be fabricated to plus or minus 1/16-inch concentricity. The outer riser ring shall have an inside diameter no greater than 3/16 inch larger than the outside diameter of the manhole lid.

D. All material shall be bituminous asphalt coated.

E. All welding shall be in accordance with AWS D1.5 by certified welders.

PART 3 EXECUTION

3.01 MEASUREMENT

A. Each manhole to receive adjusting rings shall be inspected and properly measured, with the measurements following all manufacturers' guidelines. Measurement for the height of adjustment shall be made only after any asphalt-leveling course has been placed. The contractor will be required to provide personnel to individually measure each structure in the presence of the OWNER. The measurements will include top and bottom lid diameters, lid thickness, as well as the required rise.

B. The adjustment of manholes and valve boxes shall not be attempted until after the placement of the base course and any leveling course, and prior to placement of the overlay. Any debris that has fallen into the manholes or water valves during the adjustment process shall be removed before cleanup is complete.

C. Adjustment rings for rise less than one inch shall be unacceptable.

D. Special attention shall be given to structures needing replacement rings due to wear or other factors which may not be suitable for adjustment rings. Adjustment rings shall not be placed on any existing casting which has been deemed unacceptable by the OWNER.

E. Manhole adjustments shall be completed within 10 days prior to final surface overlay on each individual street.

3.02 INSTALLATION

A. The adjusting ring shall be adjusted to the outside diameter of the manhole lid before placement can proceed. The outer ring shall have an inside diameter of no greater than 3/16 inch larger than the outside diameter of the lid. The area on the existing casting where the ring will seat shall be thoroughly cleaned using a steel wire brush. The ring can then be placed making sure there is full bearing of the lower section to the existing casting. The set screws can be tightened to assure no movement due to traffic.

B. Frames and covers shall be set to proposed grade and sloped to match slope and crown of road within 0.25 inches of the final surface.

C. The contractor shall provide personnel to assist the OWNER in inspecting the adjustment. The height of adjustment shall be checked by the following procedure:
   1. Pull string line parallel to the curbing across the casting for at least 10 feet on either side of the casting.
   2. Hold string at a height of 1 inch above the required adjustment and subtract 1 inch from the measurements.
   3. Measurements shall be made from the top of lid (and ring) to the string line.
   4. The height shall then be checked with the same string line pulled perpendicular to the curbing.
   5. The final adjustment height shall not vary more than 1/4 inch from the thickness of the over lay, in either direction.

D. The contractor shall open the manhole for inspection of how the lid fits and a field check to assure the ring is secure.

E. Any unacceptable adjustments shall be repaired by the Contractor or replaced with a concrete adjustment, with no additional expense to the OWNER.

Pay Item	**Pay Unit**
Manhole Adjustment Rings	EA

END OF SECTION 00472

SECTION 00474

TRENCHING STABILIZATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The Contractor shall design, furnish, and install any trench stabilization necessary to maintain excavations for pipe and drainage structure installation. The Contractor shall be responsible for installation and removal of any trench stabilization. The Contractor shall also be responsible for any damage to adjacent structures resulting from the installation, removal, or absence of trench stabilization. Payment for all labor, equipment, and materials involved in this specification will be considered incidental to the cost of construction.

B. It is the responsibility of the contractor to comply with all current safety regulations issued by all regulatory agencies.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 00474

SECTION 00475

STORM SEWER

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This item shall consist of storm sewer pipes and structures of the classes, sizes, and dimensions designated, furnished and installed at such places as are designated in accordance with the lines and grades given and in conformity to these specifications. This item shall also include furnishing and construction of such joints and connections to other pipes, catch basins, manholes, endwalls, trench stabilization, etc., as may be required to complete the work as shown on the plans.

B. Determination of Measurement:
   1. (X) inch Storm Sewer: Measure pipe inside wall to inside wall of structures and from pipe end to longest point of opposing pipe end. Depth of pipe will not affect measurement.
   2. Storm Sewer Structure: Structures shall be measured by count of structures installed.

C. Basis for Payment:
   1. Payment for Storm Sewer: shall be on a contract unit price per linear foot of storm sewer that is installed.
   2. Payment for Storm Sewer Structures shall be per each installed in the field.

PART 2 PRODUCTS

2.01 MATERIALS

A. Pipes: All pipes shall be of the type and class indicated on the plans.

   1. Reinforced concrete pipe shall conform to A.S.T.M. Specifications C-76, Class III, and 15" through 36" diameter shall be of modified or improved tongue and groove type. No plain or straight wall grooves shall be used.

   2. Corrugated galvanized metal pipe shall conform to latest AASHTO Specifications. All metal pipe culverts used shall be fully coated inside and outside with an asphalt cement to a minimum thickness of 0.05 of an inch when measured on the crest of the percent soluble in carbon disulfide. The pipe shall be coated with the bituminous material in a manner so that a smooth pavement will be formed in the invert (inside bottom of pipe when installed), filling the corrugation for at least 25 percent of the periphery of the pipe. The pavement shall have a minimum thickness of 0.125 of an inch then measured on the crests of the corrugations.

   3. Castings: All casting shall be of the type and duty shown on the plans and shall be approved by the Engineer prior to installation. Castings shall be made of gray iron, ASTM A-48 – class 30, or ductile iron, ASTM A536, grade 65-45-12. Castings shall be free from imperfections not true to pattern. Casting tolerances shall be plus or minus 1/16 inch per foot of dimension. Top shall set neatly in frame, with edges machined for even bearing and proper fit to prevent rattling and flush with the edge of frame. All covers and gratings shall seat firmly without rocking. The Contractor shall replace all faulty castings installed by him at his expense.

4. Mortar*:* Mortar used in brick masonry and joints shall be composed of one-part Portland cement and hydrated lime, (not more that 10 percent of lime, based on the volume of cement, shall be used) and two-parts sand. Portland cement and hydrated lime shall meet the requirements of the latest A.S.T.M. specifications. The sand shall be composed of clean, well graded aggregate. The mortar shall be mixed in a tight mortar box or in an approved mechanical mixer. Mortar shall be used within *45* minutes after mixing.
5. Bedding material shall be #57 washed stone. Stone depth shall be 6" below the pipe (or as specified by the Engineer) and full width of trench.
6. Tracer wire may be installed on non-metallic pipe. Tracer wire shall be #12 AWG solid-copper wire with green insulation.

B. General work items:
1. Adjust Existing Manhole Cover with Portland Cement Concrete: Refer to specification section 00472.
2. Adjust Existing Valve Box with Portland Cement Concrete: Refer to specification section 00465.
3. New Manhole Cover with Portland Cement Concrete: Refer to specification section 00471.
4. New Valve Box with Portland Cement Concrete: Refer to specification section 00471.

C. Storm Sewer Structures items:
5. (X) inch Concrete Flared-End Section: Excavation, backfilling, and compacting for flared-end section.
6. Catch Basin: Excavation, backfilling and compacting, stone bedding, concrete base, brick work as required for the depth, grate, frame, invert, steps, and weep holes.
7. Double Catch Basin: Excavation, backfilling and compacting, stone bedding, concrete base, brick work as required for the depth, grate, frame, invert, steps and weep holes.
8. Open Throat Catch Basin: Excavation, backfilling and compacting, stone bedding, concrete base, brick work as required for the depth, invert, steps, weep holes, and precast top.
9. Drop Inlet: Excavation, backfilling and compacting, stone bedding, concrete base, brick work as required for the depth, grate, frame, invert steps and weep holes.
10. Junction Box: Excavation, backfilling and compacting, concrete base, brick work as required for the depth, grate and frame.
11. Concrete Pipe Collar: Excavation, forms, backfilling, compacting, concrete, and hauling.
12. Precast Concrete Box: Excavation, materials, pipe boots, grout, backfilling, compaction, grading.
13. New catch basin frame and grate: Remove and properly dispose of existing grate, frame, and hood. Provide new grate, frame, and hood adjusting to grade of new curb and gutter elevations.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
1. Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
2. Installation of warning / identification / traceable tape over utilities.

3. Temporary support and protection of existing underground facilities.
4. Pipe, concrete blocking and encasement, connection to existing piping, and fittings.
5. Flushing and treatment, as required.
6. Adjust existing and new manhole and valve boxes to finished surface elevations, if applicable.
7. Grade disturbed areas to original surface profile prior to seeding.
8. Pipe bedding.
9. Joint materials.
10. Clean up.

B. The trench shall be shaped true to line and grade, and bedding surface for the pipe shall provide a firm foundation. Grooves shall be cut in the trench for bells so that each joint of pipe shall be bedded for its full length.

C. Concrete pipe culverts shall be carefully seated with bells or grooves upgrade and ends fully closed. Joints of concrete pipe shall be thoroughly wet before making the mortar joint. CONSEAL can be used instead of mortar to seal joints.

D. Modified Tongue and Groove Concrete Pipes: Before succeeding sections of pipe are laid, the lower portions of the bell or groove of the pipe shall be filled on the inside with cement mortar of sufficient thickness to bring the inner surface of the abutting pipes flush and even. After the pipe is laid, the remainder of the joint shall be solidly filled with mortar and sufficient additional mortar to form a bead or ring around the outside of the joint. The inside of the joint shall be wiped and finished smooth. Pipe which is not true to plan alignment or profile, or which shows any settlement after laying shall be taken up and reinstalled without extra compensation.

E. Manholes, Inlets, Junction Boxes, Catch Basins, Etc.: Excavation shall be made to the required depth. The foundation on which the brick masonry is to be laid shall be approved by the Engineer prior to the laying of bricks. The bricks shall be laid so that they will be thoroughly bonded into the mortar by means of the *"shove joint"* method; buttered or plastered joints will not be permitted. The headers and stretchers shall be so arranged as to bond the mass. Brick work shall be of alternate headers and stretchers with consecutive courses breaking joints. All mortar joints shall be completely filled with mortar. No spalls or bats shall be used except for shaping around irregular openings or when unavoidable to finish out a corner. Competent bricklayers shall be employed on the work and all details of construction shall be in accordance with approved practice and to the satisfaction of the Engineer.

1. Steps shall be in accordance with ASTM C478 and made of ½-inch grade 60 steel encapsulated by co-polymer polypropylene and have serrated tread and tall end lugs. Steps as shown on the plans shall be placed in all manholes, catch basins and inlets when they are greater than 42" in depth. The steps shall be set in the masonry as the work is built up, thoroughly bonded and accurately spaced and aligned. Place steps on narrow side of structure.

2. Existing manholes, catch basins and inlets shall be adjusted by the Contractor when designated by the Engineer. The work will be considered an adjustment where the manhole, catch basin or inlet in question is extended or lowered three feet or less in elevation, or where a catch basin can be adjusted to line without tearing out and rebuilding an entire wall. More work than this will not be considered an adjustment but shall be classified as reconstruction.

3. Inverts in appurtenances shall be shaped to form smooth and regular surfaces free from sharp or jagged edges. They shall be sloped adequately to prevent sedimentation.

4. The casting shall be set in full mortar beds. All castings when set shall conform to the finished grade as established by the Engineer. Any castings not conforming shall be adjusted to the correct grade without extra compensation.

5. Concrete pipe collars may be used for repairing storm drainpipes. Concrete collars may not be installed within 16' of any structure. Damage within 16' of structures shall be replaced with new pipe. See detail for more information on installation.

Pay Item	**Pay Unit**
Storm Sewer Pipe (X")	LF
Storm Sewer Structures (by Type)	EA

END OF SECTION 00475

SECTION 00476

PRECAST DRAINAGE STRUCTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section includes round and rectangular pre-cast concrete drainage structures including inlet structure components, sub-grade structure components, grates, covers and accessories.
B. Determination of Measurement: By the number installed per type.
C. Basis of Payment: Payment will be for the contract unit price per end-wall/ headwall/flared end section per type installed.

1.02 REFERENCES

A. Pre-stressed Concrete Institute: Manual for Quality Control for Plants and Production of Pre-cast and Pre-stressed Concrete Products.

B. National Pre-cast Concrete Association: Quality Control Manual for Pre-cast Concrete Plants.

C. American Society for Testing and Materials:
1. ASTM C478: Standard Specification for Precast Reinforced Concrete Manhole Sections.
2. ASTM C890: Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Pre-cast Concrete Water and Wastewater Structures.
3. ASTM C891: Standard Practice for Installation of Underground Pre-cast Concrete Utility Structures.
4. ASTM C913: Standard Specification for Pre-cast Concrete Water and Wastewater Structures.

D. American Association of State Highway and Transportation Officials Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets (AASHTO M198).

E. American Concrete Institute: Building Code Requirements for Reinforced Concrete (ACI 318).

F. Occupational Safety and Health Administration: Standard 1926.704, Requirements for Pre-cast Concrete.

1.03 SUBMITTALS

A. The following information must be submitted to the project Engineer:
1. Schedule of the drainage structure components to be provided on the project including the following:
a. Sheet number where the structure plan and profile are shown.
b. Line number when applicable.
c. Drainage structure number or station number.
d. Invert elevation of the influent and effluent lines as shown on the plans.
e. Inlet structure flow-line elevation as shown on the plans.
f. Total height required from top of base slab to top of structure.
g. Total height of the individual and assembled drainage structure components.
h. Top and bottom elevation of the drainage structure as calculated.
i. Manufacturer's part or catalog number and number required of each component.
j. Each pipe size, type and hole size and its distance from top of base slab.

k. Pipe location in degrees clockwise from step centerline on round structures.
l. Pipe location on rectangular structures by wall and intersecting angle relative to wall.
m. Minimum round inside diameter or rectangular inside dimensions required.

B. Detail of each pre-cast concrete component to be provided, sealed by the registered Professional Engineer including the following:
1. Manufacturer's part number or catalog number.
2. Inside diameter or dimensions and lay length.
3. Wall thickness and base or top thickness where applicable.
4. Handling weight and lift hole or insert or loop description and location.
5. Wire size, spacing and area provided per vertical foot (when applicable).
6. Reinforcing bar size and spacing or location.
7. Design loads for all rectangular components and round top slab components.
8. Step locations on round structures.
9. Concrete design strength and manufacturer's mix number.
10. Height, width, slope and annular space of the tongue and groove for products requiring tongue and groove joints.

C. Step detail and material specifications.

D. Joint material detail, material specifications and calculations showing that the joint material cross section is greater than the joint's annular space times its height.

E. Lifting device and hole detail including design loads.

F. At the request of the Engineer or owner, submit the following:
1. Structural analysis and design calculations for precast rectangular components and round top slab components, performed in accordance with applicable codes and standards, showing that allowable stresses will not be exceeded. All calculations must be sealed by a Registered Professional Engineer.
2. Calculations or test results verifying that the lifting device components and holes are designed in accordance with OSHA Standard 1926.704.
3. Concrete 28-day compression strength results for every day production of Pre-cast Components for the project was performed, showing the required strength according to the guidelines established in ACI 318.
4. Reinforcing and cement mill reports for materials used in the manufacture of Pre-cast Components for this project.
5. The above test reports for similar Pre-cast Components recently produced, submitted prior to production of Pre-cast Components for this project.

1.04 QUALIFICATIONS

A. The pre-cast manufacturer shall comply with the following requirement:
1. The Precast Manufacturer shall be a NCDOT approved manufacturer of precast concrete structures and have a minimum of 5 years of experience in manufacturing the required components.

1.05 ENVIRONMENTAL REQUIREMENTS

A. Maintain materials and surrounding air temperature to a minimum 40 degrees F prior to, during, and 48 hours after completion of masonry, grouting or concreting work.

PART 2 PRODUCTS

2.01 MATERIALS

A. Concrete shall conform to ASTM C478, C858 and as follows:

1. Compressive strength: 4000 psi minimum at 28 days.
2. Air Content: 6% ± 1.5%.
3. Cementitious Materials: Minimum of 564 pounds per cylinder yard.
4. Course Aggregates: ASTM C33, bound, crushed, angular granitic stone only.
5. Fine Aggregates: ASTM C33 free from organic impurities.
6. Chemical Admixtures: ASTM C494 calcium chloride or admixtures containing calcium chloride shall not be used.
7. Air Entraining Admixtures: ASTM C260.

B. Reinforcing steel shall be ASTM A615 Grade 60 deformed bar, ASTM A82 wire or ASTM A185 welded wire fabric.

C. Lift Loops shall be ASTM A416 steel strand. Lifting loops made from deformed bars shall not be allowed.

D. Flexible joint sealants shall be butyl rubber based conforming to Federal Specification SS-S-210A, AASHTO M-198, Type B - Butyl Rubber and as follows: maximum of 1 percent volatile matter and suitable for application temperatures between 10 and 100 degrees F.

E. Epoxy gels shall be a 2component, solvent free, moisture insensitive, high modulus, high strength, structural epoxy paste adhesive meeting ASTM C881, Type I and II, Grade 3, Class B and C, Epoxy Resin Adhesive.

F. No waffle boxes allowed in city right of way or easement as noted in Standard Detail DR-20.

2.02 COMPONENTS

A. Pre-cast Components shall be designed and manufactured as described in this paragraph and in the following paragraphs for the specific components.
1. Lifting Inserts, Holes and Devices shall comply with OSHA Standard 1926.704. Lift holes and inserts shall be sized for a precision fit with the lift devices. Lifting devices shall be provided by the Pre-cast Manufacturer.
2. Joints shall be sealed internally between the tongue and groove and additionally around the external perimeter of the joint as follows:
   a. External Seals shall consist of a polyethylene backed flat butyl rubber sheet no less than 1/16 inch thick and 6 inches wide applied to the outside perimeter of the joint.
   b. Internal Seals shall consist of a plastic or paper-backed butyl rubber rope no less than 14 feet long and having a cross-sectional area no less than the annular space times the height of the joint
   c. At the option of the Contractor, Internal Seals on round joints may consist of an O-Ring Gasket conforming to ASTM C443, installed according to the Pre-cast manufacturer's recommendation.
3. Rings, Covers, Grates, and Frames shall be Class 30 gray cast iron and shall be designed for 16,000-pound wheel loads when located in roadways.
4. Pre-cast Base Sections shall be cast monolithically without construction joints or with approved galvanized or PVC water-stop cast in the cold joint between the base slab and the walls. The minimum size of the base section shall be as specified in the schedules.
5. Wall and inside slab finishes resulting from casting against forms standard for the industry shall be acceptable. Form ties through the wall are not allowed. Exterior slab surfaces below grade shall have a float finish. Small surface holes, normal color variations, normal form joint marks, and minor depressions, chips and spalls will be tolerated. Dimensional tolerances shall be as set forth in the appropriate References. Exposed Drainage Structure Top Components shall have a form finish or a light broom finish on their exposed surfaces. Fins, voids, chips, or fractures over 3/8 inch in diameter shall be filled with thin cement paste and finished to a color and texture

reasonably consistent with that of formed finish. Rings and covers cast in exposed tops shall be free from cement paste build up.

6. Provisions for pipe entrances in the structures shall be cast or cored openings.
    a. Pipe openings in round structures shall remain 6 inches clear of other pipe openings.
    b. Pipe openings in rectangular structures shall not extend into the corners and may extend across a joint only when structural analysis shows stresses to be within the allowable.
7. Components shall be designed in accordance with ACI, ASTM C890 and following loads:
    a. Horizontal Load on Walls: An earth load of 80 psf per foot of burial depth plus a live lateral surcharge due to HS20 traffic loads of 80 psf.
    b. Vertical Load on Below Grade Adapter Slabs and Tops: An earth load of 120 psf per foot of overburden plus a live HS20 traffic load.
    c. Vertical Load on Exposed Inlet tops: A live 300 psf load.
    d. Vertical Load on Cast Iron Covers and Grates Supported Around Perimeter: A live HS20 load.

B. Round Sub-grade Components shall be designed and manufactured in conformance with ASTM C478 and as follows:
1. Riser Sections shall have a minimum lay length of 16 inches.
2. Pre-cast Concentric and Eccentric Cone Sections shall have an inside diameter at the top of 24 inches. The width of the top ledge shall be no less than the wall thickness required for the cone section.
3. Pre-cast Transition Cone or Top Sections may be used to provide an eccentric transition from 60 inch and larger structures to 48-inch diameter risers, cones, and adaptor slabs. Transition tops shall only be used in areas not subject to vehicle traffic with no more than 20 feet of cover.
4. Provide Steps in Bases, Risers, Cones, Transition Cones, and Transition Top sections aligned vertically on 16-inch centers when 42” deep or greater. Secure steps to the wall with a compression fit in cast or drilled holes or cast in place. Steps shall not be vibrated or driven into freshly cast concrete or grouted in place. The steps shall be Copolymer Polypropylene Plastic reinforced with a ½ inch diameter grade 60 bar and have serrated tread and tall end lugs. Pullout strength shall be a minimum of 2,000 pounds when tested according to ASTM C497.
5. Joints of Bases, Risers and Cones shall be manufactured to the joint surface design and tolerance requirements of ASTM C361.

C. Rectangular Sub-grade Components shall be no less than 22 inches wide, 34 inches long, designed and manufactured in conformance with ASTM C913 and as follows:
1. Riser sections shall not be allowed on boxes smaller than 4 feet long by 4 feet wide.
2. Pre-cast Transition Top Sections may be used to provide an eccentric transition from 4 foot by 4 foot and larger storm drain structures to 48-inch diameter risers, cones and adapter slabs. The maximum amount of fill over the transition top section shall be 20 feet.
3. Joints between precast components shall be keyways or tongue and groove. Joints to accept cast iron frames shall be flat and no less than 5" wide.

D. (Access Manhole) Inlet Components shall have cast iron rings and covers shall be as shown in the details with an opening diameter of 22 inches. Adapter slabs and cones shall have a minimum opening diameter of 24 inches. Precast grade rings conforming to ASTM C478, with a minimum lay length of 4 inches and totaling no more than 12 inches in height shall be used to adjust rings and covers to finished grade.

2.03 CONFIGURATION

A. Construct (Access Manhole) Structures to the elevations shown on the plans and as follows:
   1. A 24-inch diameter Cast Iron Ring and Cover
   2. A Concentric or Eccentric Cone or an Adapter Slab and a Round or Rectangular Subgrade Structure sized according to the schedule.

B. Drainage Structures greater than 8 feet deep shall be no less than 48 inches in diameter or 48 inches wide by 48 inches long.

PART 3 EXECUTION

3.01 WORK

A. Work shall include the block, brick, concrete, reinforcing steel, materials, excavation, bedding, grading and all other incidentals in order to build end-wall.

B. Work shall include the materials, excavation, bedding, grading and all other incidentals needed to construct headwall/flared end section.

C. The Contractor shall build inverts in all drainage structures in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions. The additional work and materials required to install inverts will not be measured for payment as this work will be considered incidental to the construction of Drainage Structures.

3.02 EXAMINATION

A. Inspect Precast components prior to unloading from the delivery truck.

3.03 PREPARATION

A. Product Delivery, Storage and Handling: Coordinate delivery with the manufacturer, handle and store the Precast Components in accordance with ASTM C891 and the manufacturer's recommendations using methods that will prevent damage to the components and the joint surfaces.

3.04 PLACING PRECAST CONCRETE SECTIONS

A. Excavate to the required depth and remove materials that are unstable or unsuitable for a good foundation. Prepare a level, compacted foundation extending 6" beyond the precast base and follow ASTM C891 excavation standards.

B. Set base plumb and level, aligning pipe opening with pipe invert.

C. Thoroughly clean joint tongue and grooves to remove dirt and other foreign materials that may prevent sealing. Unroll the Butyl Sealant rope directly against bottom groove. Leave protective wrapper attached until sealant is entirely unrolled against groove. Do not stretch. Overlap from side to side, not top to bottom.

D. Set risers and tops, aligning internal wall surfaces, so that proper alignment is achieved, taking particular care to clean, prepare and seal joints.

E. When recommended by the manufacturer, fill the void between horizontal joint surfaces with a sand cement grout around the outside perimeter as risers are set.

F. After joining precast sections, apply the butyl sealant sheet around the outside perimeter of the joints below grade.

G. Secure Pipe Connectors to Pipe according to the Connector Manufacturer Instructions. When pipe stub outs are installed, provide restraint from longitudinal movement before backfilling.

H. Lift Holes leaving less than 2" of wall thickness shall be plugged from the outside using a sand cement mortar and then covered with butyl sealant sheet. Lift Holes penetrating the wall shall be additionally sealed with an interior application of an epoxy gel 1/8" thick extending 2" beyond the penetration.

I. Perform the final finishing to the Structure interior by filling all chips or fractures greater than 1/2" in length, width or depth and depressions more than 1/2" deep in inverts with a sand cement mortar. Clean the interior of the Structure, removing all dirt, spills or other foreign matter.

3.05 SCHEDULES

A. Round Storm Drain Structures.

1. Provide round sub-grade structures with minimum inside diameters in inches based on the pipe's outside diameter and the angle formed with the adjacent entering pipe as shown in the table below:

Largest	Mnimum Degrees Between Pipe Entering Structure										
Pipe OD	180	165	150	135	120	105	90	75	60	45	30
15	48	48	48	48	48	48	48	48	48	72	96
21	48	48	48	48	48	48	48	60	60	84	120
27	48	48	48	48	48	48	60	60	72	96	N/A
33	48	48	48	48	48	60	60	72	84	120	N/A
39	48	48	48	60	60	60	72	84	96	N/A	N/A
45	60	60	60	60	72	72	84	96	108	N/A	N/A
51	72	72	72	72	72	84	84	108	120	N/A	N/A
57	72	72	72	72	84	84	96	108	N/A	N/A	N/A
63	84	84	84	84	84	96	108	120	N/A	N/A	N/A
69	84	84	84	84	96	108	120	N/A	N/A	N/A	N/A
75	96	96	96	96	96	108	120	N/A	N/A	N/A	N/A
81	96	96	96	96	108	120	N/A	N/A	N/A	N/A	N/A

2. Structures with smaller inside diameters may be supplied when pipes are of different diameters and calculations or shop drawings show that a minimum of 6 inches clearance will be maintained between pipe openings.
3. The minimum lay length of the base section shall be no less than the diameter of the pipe opening for pipe OD up to 87 inches.

B. Rectangular Storm Drain Structures

1. Provide rectangular sub-grade structures with minimum inside wall widths based on the entering pipe's outside diameter and the angle formed with the penetrated wall as shown in the chart below:

Largest	Minimum Degrees Between Pipe and Wall						
Pipe OD	90	80	70	60	50	40	30
15	22	22	22	22	22	34	34
21	22	22	22	34	34	34	46
27	34	34	34	34	46	46	58
33	34	34	46	46	46	58	70
39	46	46	46	46	58	70	82
45	46	46	58	58	70	70	94
51	58	58	58	70	70	82	106
57	58	58	70	70	82	94	118
63	70	70	70	82	82	106	130
69	70	70	82	82	94	118	142
75	82	82	82	94	106	118	154
81	82	82	94	94	106	130	166
87	94	94	94	106	118	142	178

2. Structures with narrower walls may be supplied when pipes are different diameters than shown and calculations of shop drawings show that the pipe will not penetrate the corners of the structure.

Pay Item	**Pay Unit**
Precast Drainage Structures - Type	EA

END OF SECTION 00476

SECTION 00485

FLOWABLE FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this specification consists of furnishing and placing flowable fill. Flowable fill is a controlled low strength material consisting of Portland cement, fly ash, fine aggregate, and water. It is suitable for filling underground storage tanks and pipe culverts and for back-filling culverts, bridges (where culverts or pipes are installed under a bridge), retaining walls, and roadway trenches.

B. Determination of Measurement: Measure by the cubic yard measured in the field of flowable fill installed.

C. Basis for Payment: Payment shall be on a contract unit price per cubic yard that is installed.

1.02 DELIVERY, HANDLING, AND STORAGE

A. Mixing and Delivery: The Contractor shall comply with the applicable portions of Section 00455.

B. Temperature Requirements: The temperature requirements of Section 00455 shall apply.

1.03 DESIGN REQUIREMENTS

A. Composition and Design: The Contractor shall submit to the Engineer the proposed mix design(s) on M&T Form 312 at least 35 days prior to use. Mix proportions shall be determined by a testing laboratory which has been approved by NCDOT and shall be based on laboratory trial batches meeting the following requirements:

BATCH ITEM	**FILL TO BE EXCAVATED**	**FILL TO REMAIN IN PLACE**
Compressive Strength @ 28 Days Approximate Quantities Per C.Y.	80-150 PSI Max	500 PSI Min.
Cement	40-100 Lbs. Min.	150 Lbs. Min.
Fly Ash	250-600 Lbs. Min.	300 Lbs. Min.
Fine Aggregate	2000-2500 Lbs. SSD (Saturated Surface Dry)	2650 Lbs. SSD (Saturated Surface Dry)
Water	60 Gallons	60 Gallons

B. To achieve desired placement consistency, flowability may be adjusted by varying the water content approximately + or - 5 gallons per cubic yard without quantitative changes in other materials. This decision can only be made by the project Engineer or their designee. Less flowable mixes are desirable when it is necessary to put traffic back on a roadway quickly (i.e., within 8 to 10 hours) or when less buoyant fill is needed to backfill pipes that could float out of position. Pipes that could float shall be anchored or placement shall be in stages to prevent the pipe from floating.

PART 2 PRODUCTS

2.01 MATERIALS

A. All materials, including the materials listed below, shall meet the requirements of the *North Carolina Department of Transportation Standard Specifications for Roads and Structures,* latest edition and revisions.

1. Fine Aggregate
2. Portland Cement
3. Type IP Blended Cement
4. Fly Ash
5. Type IS Blended Cement
6. Water
7. Chemical Admixtures
8. Flowable Fill

B. Steel plates shall be Grade A36 steel and 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.

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Material, placement, steel plating, backfilling, tools, equipment, etc.

B. Placing: Flowable fill shall be discharged directly from the truck into the space to be filled, or by other methods approved by the Engineer. The mix may be placed full depth or in lifts as site conditions dictate. In roadway trenches, the flowable fill shall be brought level with the bottom of the pavement and then paved over. Between filling and paving operations, steel plates may be placed over the trench to accommodate traffic.

C. The Contractor shall state on NCDOT M&T Form 312 the intended use of the flowable fill. The Form shall be accompanied by a listing of compressive strength of at least three 4" x 8" cylinders at the age of 7 and 28 days. The Engineer will advise the Contractor in writing of the acceptability of the mix design.

D. The Contractor may use flowable fill as an option to conventional fill and backfill methods with the approval of the Engineer.

Pay Item	**Pay Unit**
Flowable Fill	CY

END OF SECTION 00485

SECTION 00497

TRAFFIC CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of furnishing, erecting, maintaining, relocating and removing traffic control devices for maintenance of traffic during construction operations.

B. Determination of Measurement: Measurement shall not be made for this item.

C. Basis of Payment: Traffic control shall be billed and compensated as a lump sum item based on the following percentage schedule:

50%	First Payment
25%	Completion of 50% of project
15%	Completion of 75% of project
10%	Final Payment

1.02 REFERENCES

A. All work performed is to be in accordance with:

1. The *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, latest edition and revisions.
2. The *North Carolina Department of Transportation Highway Design Branch Roadway Standard Drawings*, latest edition and revisions.
3. The Manual on Uniform Traffic Control Devices (MUTCD).
4. The North Carolina Supplement to the MUTCD.
5. Any project plans or sketches.
6. Any project special provisions.

1.03 SUBMITTAL

A. If the traffic control plan is not included as a part of the project plans, the individual project traffic control plan must be submitted to the City Traffic Engineer within two weeks of being declared the lowest responsible bidder. The City Traffic Engineer will approve or revise and approve the traffic control plan within 5 working days of submittal.

PART 2 PRODUCTS

2.01 MATERIALS

A. The Contractor shall use interim pavement marking paint as described in the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, latest edition and revisions.

B. Traffic cones may be used when approved by the City Traffic Engineer. When cones are used, they shall be either double stacked or have special heavy bottoms such that they will not be blown over by traffic.

C. All traffic control devices furnished by the Contractor shall remain the property of the Contractor, unless otherwise required by the Special Provisions.

PART 3 EXECUTION

3.01 PREPARATION

A. Street Closure
   1. Intended street closures must be requested, in writing to the City of Fayetteville Traffic Engineer, a minimum of five (5) working days prior to the desired closure date. The request shall state the street name, the from and to locations, and the length of closure time of the individual street to be closed.
   2. The request must also be accompanied by a traffic control plan, showing the detour information of through traffic. This plan must be in accordance with the current edition of the MUTCD.
   3. After approval, in writing, the Contractor bears full responsibility for the closure to include installation, maintenance and removal of all traffic control devices, as well as all implied liability.

B. No work shall start until all the traffic control devices required for the particular work activity have been installed, inspected, and approved by the Traffic Engineer or his representative.

3.02 TEMPORARY ROAD CLOSURE

A. Conditions represented are for work that requires closings during daytime hours only.

B. This application is intended for a planned temporary closing not to exceed 15-20 minutes.

C. The flaggers shall stop the first vehicle from a safe position, then move to the centerline to stop approaching traffic.

D. A portable message sign may be used in addition to the initial warning sign.

E. NOTE: The spacing between signs has a recommended standard of 200' but can be modified by the City Inspector according to the location of the workspace.

3.03 LANE CLOSURE ON MINOR STREET

A. The traffic control procedure is appropriate only for low volume, low speed facilities, such as local residential streets.

B. Traffic can regulate itself when volumes are low and the length of the workspace is short, thus enabling drivers to readily see the roadway beyond.

C. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

D. The spacing between signs has a recommended standard of 200' but can be modified by the City Inspector according to the location of the workspace.

3.04 SIDEWALK CLOSURES

A. Additional advance warning may be necessary.

B. Other devices may be needed to control traffic on the streets. Use lane closure signing as required.

3.05 INSTALLATION

A. The furnishing, erecting, maintaining, relocating and removing of traffic control devices will be in accordance with the current edition of *The Manual on Uniform Traffic Control Devices* for streets and highways.

B. All traffic control devices must be in place before beginning work each day, removed during intervals when work is not ongoing and removed at the end of the workday.

C. The Contractor shall not obstruct or impede any of the traffic on adjacent streets while installing traffic control or doing construction work.

D. The Contractor shall not close a lane to through traffic at night and during periods of construction inactivity, unless otherwise approved by the Engineer.

E. The Engineer may restrict the Contractor from placing lane closures during certain hours, holidays, or special events because traffic may be unusually heavy. All lane closure types, hours of installation and lengths, will be controlled by and required to be approved by the Engineer.

F. When working within the travelway, the Contractor shall use a standard lane closure or a moving operation caravan utilizing a shadow vehicle and truck mounted impact attenuator, as approved by the City Traffic Engineer. A moving operation caravan shall only be used if the marker operation maintains a minimum speed of 3 MPH at all times with no stops that would narrow or close a lane of travel.

G. The use of police and/or trained flaggers to control traffic through the work site will be provided by the Contractor as required. The Contractor will be responsible for obtaining trained personnel to direct traffic and contacting local authorities for use of police for traffic control where applicable.

H. Time limitation for placement and replacement on pavement markings and markers completed by contractors on newly resurfaced areas:
   1. Marking By Contractor
      a. Divided and Multi-Lane Facilities
         1) For all Interstate highways and access ramps, place all markings including symbols and legends, by the end of each workday's operation.
         2) For all divided and multi-lane facilities, place all center line and lane line markings and railroad and school symbols and stop bars by the end of each workday's operation. Place all edge lines, gore lines, and other symbols within 3 calendar days after they have been obliterated by the resurfacing operation.
         3) A multi-lane facility is defined as any roadway having more than two lanes to include a two-lane, two-way with two-way center left turn lane.
      b. Two-Lane, Two-Way Facilities
         1) For all two-lane, two-way facilities, place all centerline markings, railroad and school symbols within 5 calendar days after they have been obliterated by the resurfacing operation. Place all edge lines and other symbols within 15 calendar days after they have been obliterated by resurfacing operations.
      c. All Facilities
         1) Place two applications of paint on newly resurfaced asphalt which will remain in place over three (3) months. Place the second application of paint upon ample drying time of the first, as determined by the Engineer.
         2) Install permanent markers within sixty (60) calendar days after completing the resurfacing.

Pay Item	**Pay Unit**
Traffic Control	LS

END OF SECTION 00491

SECTION 00495

THERMOPLASTIC PAVEMENT MARKINGS
(Alkyd/Maleic)

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section consists of the furnishing and placement of Alkyd/Maleic Thermoplastic Reflective Markings in the form of lines and symbols as shown on the pavement marking plans. These markings shall be installed at the locations shown on the pavement marking plans or where directed by the City Traffic Engineer. Installation shall be performed in accordance with the lines, symbols, and dimensions shown on the pavement marking plans or as directed by the City Traffic Engineer. The Contractor shall furnish all materials, services, labor, and equipment necessary for the required pavement preparation and pavement marking installation. The Contractor shall provide sufficient personnel experienced in handling and applying the thermoplastic pavement marking materials to assure that the work is done properly.

1. The work shall meet the requirements of this section and the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, current revision, and any attached standard pavement marking typical drawings and/or project plans.

B. This special provision covers machine applied hot Alkyd/Maleic Thermoplastic Pavement Marking Material with both incorporated glass beads and drop-on glass beads. The material shall be plainly visible to the motorist both day and night. Nighttime visibility shall be enhanced by retroreflection induced by standard automobile headlights.

1.02 THERMOPLASTIC PAVEMENT MARKING LINES

A. Determination of Measurement: The quantity of thermoplastic pavement marking lines to be paid for will be the actual number of linear feet of thermoplastic pavement marking lines which have been satisfactorily placed. The quantity of solid lines will be the summation of the linear feet of solid line measured end to end of the line. The quantity of skip or intermittent lines will be the summation of the linear feet derived by multiplying the nominal length of the marking lines by the number of marking lines in place.

B. Basis for Payment: The quantity of thermoplastic pavement marking lines measured will be paid for at the contract unit price per linear foot for thermoplastic pavement marking lines.

1.03 REMOVAL OF PAVEMENT MARKING LINES

A. Determination of Measurement: Will be measured and paid as the actual number of linear feet of pavement marking lines satisfactorily removed and accepted by the Engineer. The quantity of solid lines will be the summation f the linear feet of solid line measured end-to-end of the line. The quantity of skip or broken lines will be the summation of the linear feet derived by multiplying the nominal length of lines by the number of marking lines satisfactorily removed.

B. Basis for Payment: The quantity of pavement marking lines removed will be paid for at the contract unit price for each linear foot. No payments will be made for the removal of removable pavement marking tape.

1.04 THERMOLASTIC PAVEMENT MARKING SYMBOLS

A. Determination of Measurement: The quantity of thermoplastic pavement marking symbols to be paid for will be the actual number of thermoplastic pavement marking symbols satisfactorily placed.

B. Basis for Payment: The quantity of thermoplastic pavement marking symbols measured will be paid for at the contract unit price per each for thermoplastic pavement marking symbols.

1.05 REMOVAL OF PAVEMENT MARKING SYMBOLS AND CHARACTERS

A. Determination of Measurement: Will be measured and paid as the actual number of pavement marking symbols and characters satisfactorily removed and accepted by the Engineer.

B. Basis for Payment: The quantity of pavement marking symbols and characters removed will be paid for at the contract unit price.

1.06 QUALIFICATIONS

A. All Alkyd/Maleic thermoplastic reflective pavement marking products shall be pre-qualified by the City of Fayetteville Traffic Services Division. The process of pre-qualification shall be handled through the Traffic Services Division.

1.07 DELIVERY, STORAGE, AND HANDLING

A. All thermoplastic and glass bead material shall be delivered to the project in containers filled by the manufacturer. Each material container shall be clearly and adequately marked to indicate the material, the date of manufacture, the process, batch or lot number, and the manufacturer's name and location.

B. Dry mixed thermoplastic material shall be shipped in leak proof moisture proof containers.

C. The thermoplastic pavement marking material shall be in block or granular form packaged in either suitable corrugated containers or thermal degradable plastic bags to which it will not adhere during shipment or storage. The packages shall weigh approximately 23 kg (50 pounds). The corrugated containers shall consist of blocks approximately 14 inches x 28 inches x 2 1/4-inch size. Each container shall designate the color, manufacturer's name, batch number and date of manufacture. The label shall warn the user that the material shall be heated in the range of 204° to 227°C (400° to 440° Fahrenheit [F]) during application.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Thermoplastic pavement markings shall not be applied on new asphalt surfaces unless the ambient air temperature is 50° F and rising and the temperature of the pavement is 50° F.

B. Thermoplastic pavement markings shall not be placed when the pavement surface shows visible evidence of containing moisture.

1.09 WARRANTY

A. Thermoplastic Pavement Marking Observation Period

1. The Contractor shall warrant the thermoplastic pavement markings in accordance with the Contract.
2. During the warranty period the thermoplastic pavement marking material furnished and installed under this contract shall be warranted against failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, smearing, or spreading under heat, deterioration due to contact with oil, grease deposits, diesel fuel or gasoline drippings, chipping, spalling, poor adhesion to the pavement materials, loss of reflectivity, damage from traffic, and wear.
3. The Contractor, at no expense to the City of Fayetteville shall replace any pavement markings that will not perform satisfactorily under traffic during the warranty period due to defective materials and/or workmanship in manufacture and/or application. (Failure to comply with any portion of this specification shall be considered as unsatisfactory performance of the thermoplastic pavement marking material.)
4. Marking replacement shall be performed in accordance with the requirements specified herein for the initial application, including but not limited to surface cleaning, pavement marking removal, seasonal and weather limitations, etc.

5. Traffic shall be operating on the facility during the warranty period.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. The material manufacturer has the option of formulating the Thermoplastic Material according to his own specifications, however, the Contractor shall provide to the City Traffic Engineer a certificate of certification that the thermoplastic meets *North Carolina Department of Transportation Standard Specification for Roads and Structures*, current edition and any revision, Division 10, Section 1087.

PART 3 EXECUTION

3.01 WORK

A. Work: Layout, materials, testing, tools, traffic control necessary to install markings, pre-marking, or interim lines/markings, equipment, labor and all other requirements necessary to complete the work.

3.02 PREPARATION

A. To ensure maximum possible adhesion, the pavement surface upon which the thermoplastic markings are to be placed shall be properly cleaned and free of oil, mud, dust, dirt, grass, loose gravel, and other deleterious material, prior to the application of the thermoplastic pavement markings. Cleaning shall be performed on all surfaces which are to receive new thermoplastic pavement markings. The area to be cleaned shall be a minimum of 2 inches wider than the thermoplastic pavement markings to be placed, such that, an additional 1 inch of cleaned area is on each side of the thermoplastic pavement markings after they are applied.

B. Where cleaning of objectionable material is obscuring existing pavement markings of a lane occupied by public traffic, the residue including but not limited to dust, shall be removed immediately from the surface being treated. Such removal shall be by methods approved by the City Traffic Engineer.

C. On Portland Cement Concrete surfaces, a liquid epoxy resin primer-sealer or equivalent shall be applied to the area where new thermoplastic pavement markings are to be placed unless otherwise recommended by the manufacturer or Engineer. The primer-sealer shall be that recommended by the manufacturer of the thermoplastic material and shall be approved by the City Traffic Engineer. The material shall form a continuous film which shall dry rapidly, and which shall adhere to the pavement surface, thermoplastic material. The primer-sealer shall not discolor nor cause any noticeable change in the appearance of the thermoplastic pavement markings and/or the pavement outside the edge of the finished pavement markings. A sample of the primer-sealer shall be submitted to the City Traffic Engineer and shall be approved by the City Traffic Engineer prior to application.

D. No direct payment shall be made for this surface preparation (pavement cleaning and application of primer-sealer) as such work shall be considered incidental to the work being paid for by the various thermoplastic pavement marking items in this contract.

3.03 PREMARKING

A. Where no existing markings are in place, the existing markings are not visible, and/or the existing markings are to be removed, the Contractor shall be required to pre-mark each installation of thermoplastic pavement marking materials prior to application. The pre-marking shall be of a manner that will be helpful to the Contractor and the Engineer in placing the thermoplastic pavement markings as directed in the plans. The actual placement of the thermoplastic pavement marking materials shall not be performed until the pre-marking has been inspected and approved by the Engineer.

B. No direct payment shall be made for this pre-marking as such work shall be considered incidental to the work being paid for by the various thermoplastic pavement marking items in the contract.

3.04 METHODS OF APPLICATION

A. The Contractor shall furnish and install by the specified method of application, thermoplastic pavement markings as directed by and in accordance with the pavement markings plans:
   1. Machine applied, hot extruded thermoplastic with glass spheres in the proper ratio to immediately produce a highly reflective marking as described elsewhere in this proposal conventional extrusion equipment or "ribbon gun" extrusion devices.
   2. Machine applied, hot sprayed thermoplastic with glass spheres in the proper ratio to immediately produce a highly reflective marking as described elsewhere in this proposal form. This method shall be approved by the Engineer prior to application.

B. The thermoplastic pavement markings shall be applied to the road surface in a molten state with a homogenous surface application of glass spheres. When applied properly and at the designated uniform thickness and width, the marking shall, upon cooling, be uniformly reflectorized and have the ability to resist deformation caused by traffic throughout its entire length.

C. Application of Thermoplastic Marking Material
   1. The parts of the application and pre-melting equipment shall be thoroughly cleaned of foreign material prior to the introduction of the thermoplastic pavement marking proposed in this specification.
   2. Openings of three to six inches in length shall be provided at intervals of 250 feet in edge-lines placed on the inside of curves and in edge-lines on the low side of tangents as directed by the City Traffic Engineer.
   3. The material shall be heated uniformly throughout and shall have a homogenous dispersant of binder, pigment, and glass beads when applied to the surface of the pavement.
   4. To avoid blistering and poor adhesion, the thermoplastic pavement marking material shall be applied to dry pavements in a molten state at a minimum temperature of 205° C (400° F) for Bituminous Pavements and at a minimum temperature of 218° C (425° F) for Portland Cement Concrete Pavements. The temperature shall be checked every 10 minutes for compliance with the specified application temperature range.
   5. "Drop-on Beads" shall be uniformly applied to the surface of the molten thermoplastic pavement marking material so that the beads are partially embedded. The beads shall be applied at a rate of 7 pounds per 100 square feet of marking. The cross-sectional thickness of the thermoplastic pavement marking material above the surface of the pavement for center lines, skip lines, transverse lines, mini skip lines, legends, and median islands shall be a minimum of 0.120 inches; for edgelines, gorelines, 12-inch crosswalk lines, arrows and diagonals shall be a minimum of 0.90 inches.
   6. The thermoplastic pavement marking materials, when formed into traffic symbols and lines, shall have a uniformly thick and smooth surfaced cross-section throughout its entire length.
   7. All pavement marking widths, shall not vary by more than ½ inch.

8. Pavement marking lines shall be straight or of uniform curvature and shall conform with the tangents, curves, and transitions as specified in the plans and/or directed by the City Traffic Engineer. Longitudinal lines shall be offset a minimum of 2 inches from longitudinal construction joints of pavements. Longitudinal lane lines of multilane roads shall be offset 2 inches toward the median.
9. The finished lines shall have well defined edges and be free of horizontal fluctuations. The lateral deviation of the finished lines shall not exceed ½ inch from the proposed location alignment, as specified in the plans and/or directed by the City Traffic Engineer, at any point. Any greater deviations shall be sufficient cause for requiring the Contractor to remove and correct such pavement markings at no additional expense to the City of Fayetteville.
10. All pavement marking lines shall be applied with one pass of the pavement marking equipment, except the "X" of the railroad crossing symbol, 24-inch stop bars and 24-inch transverse bands, where two passes of the equipment will be permitted.
11. The stem portion of the straight arrows is to be applied in a single pass and the stem portion of turn arrows is to be applied in a maximum of two passes of the application equipment. Arrow heads may be applied by multiple passes of the application equipment, not to exceed three passes.
12. All pavement marking lines and symbols installed by multiple passes of the application equipment shall exhibit no gaps separating the application passes.
13. The various letters and symbols shall conform to the size and shape outline in the most recent edition of the Manual on Uniform Traffic Control Devices for Street and Highways, and *North Carolina Department of Transportation Standard Specification for Roads and Structures,* current edition and any revision, and as shown on the pavement marking plans.
14. The thermoplastic pavement marking material, when formed into traffic symbols and stripes, shall be readily renewable by placing a thin overlay of compatible new material directly over the old material.
15. The Contractor shall protect the pavement markings until they are track free by placing warning devices as directed by the Engineer.
16. Any molten pavement marking which is crossed by a vehicle shall be reapplied, and any subsequent marking made by the vehicle shall be removed by methods acceptable to the Engineer and at no additional expense to the Owner.
17. The Contractor shall be responsible for removing all pavement marking materials spilled upon the road surface by a method acceptable to the Engineer.

Pay Item	**Pay Unit**
Thermoplastic Pavement Marking Lines	LF
Thermoplastic Pavement Marking Symbols	EA
Removal Existing Pavement Lines	LF
Removal Existing Pavement Symbols	EA

END OF SECTION 00495

SECTION 00496

RAISED REFLECTIVE PAVEMENT MARKERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section consists of furnishing and installing raised reflective pavement markers. Under this contract, the Contractor is to install materials identified by the City of Fayetteville. Any tools and/or installation equipment not specifically shown as being furnished by the City of Fayetteville is the responsibility of the Contractor.

B. All work performed is to be in accordance with:
   1. The *North Carolina Department of Transportation Standard and Specifications for Roads and Structures*, current edition.
   2. *The North Carolina Department of Transportation's Highway Design Branch Roadway Standard Drawings*, current edition.
   3. The Manual on Uniform Traffic Control Devices (MUTCD).
   4. The North Carolina Supplement to the MUTCD.
   5. Any project plans or sketches.
   6. Any project special provisions as attached.
   7. The Engineer.

C. All work will be subject to inspection by the City of Fayetteville Traffic Services Division before final payment is made.

D. Determination of Measurement:
   1. The quantity of raised reflective pavement markers to be paid for will be the actual number of markers which have been satisfactorily installed and accepted. Any reference to quantities is provided as an estimate only and shall not serve to obligate the City to purchase any minimum amount, nor shall such reference serve to furnish any maximum amount which the Contractor is required to furnish.
   2. The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The City of Fayetteville may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.
   3. An increase or decrease in the quantity of any item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

E. Basis for Payment: The quantity of raised reflective pavement markers measured will be paid for at the contract unit price per each raised reflective pavement marker installed.

1.02 REFERENCES

A. Refer to Roadway Standard Drawing in pavement marking section of the *North Carolina Department of Transportation Highway Design Branch Roadway Standard Drawings*, current edition for placement of pavement markers.

1.03 QUALIFICATIONS

A. Pre-qualifications: Raised reflective pavement markers are required to be pre-qualified by the City of Fayetteville Traffic Services Division. The process of pre-qualification will be accomplished through the City of Fayetteville Traffic Services Division at (910) 433-1660.

1.04 REGULATORY REQUIREMENTS

A. The Contractor shall comply with all applicable local ordinances and regulations prior to beginning work. He shall obtain all permits and licenses required by state and local agencies having jurisdiction in his area of work.

PART 2 PRODUCTS

2.01 MATERIALS

2.02 All materials for raised reflective pavement markers, shall meet the requirements of the most recent edition of the *North Carolina Department of Transportation Standard and Specifications for Roads and Structures*, current edition.

A. Your quote shall be at the contract unit price each for the following items for all work involved in this project and needs to be submitted on the enclosed bid sheet.
   1. Type 1 - Raised non-snow-plowable crystal/white.
   2. Type 2 - Raised non-snow-plowable yellow/yellow.
   3. Type 3 - Raised non-snow-plowable crystal/red.

B. The work to be performed by the Contractor includes the material, labor, equipment, and traffic control necessary to install these devices.

C. Hot bitumen adhesive shall be used for mounting the pavement markers to the pavement. Other adhesives such as epoxy or cold bituminous adhesive pads will not be acceptable.

D. The pavement marker reflector lens shall be of the glass face type and as illustrated in the most recent edition of *North Carolina Department of Transportation Highway Design Branch Roadway Standard Drawings.*

PART 3 EXECUTION

3.01 INSTALLATION

A. Work: Adhesive, required traffic control devices, equipment and incidentals, cleaning of pavement surface and furnishing and installing raised reflective pavement markers.

B. Construction Methods
   1. Construction methods shall meet the requirements of the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, current edition and any revisions.
   2. The markers shall be seated on the bituminous adhesive with all edges of the marker lapped by adhesive. Markers shall not be installed on the asphalt seam or joint.
   3. Traffic control will be installed in accordance with the *North Carolina Department of Transportation Standard Specifications for Roads and Structures*, current edition and any revisions.

C. Completion and final acceptance of the project shall be contingent upon successful completion of the observation period. The observation period shall be considered a part of the work required to be completed after the final completion date specified herein (15 days after the date of availability of the work).

D. After the completion of the work, the Contractor shall have the work inspected as required by local inspectors having jurisdiction in the area and receive written approval of his work. The Contractor shall be responsible for maintaining traffic in a safe and efficient manner at all work sites. Local ordinances involving the time of day the Contractor may work are to be observed.

Pay Item **Pay Unit**

Raised Reflective Pavement Markers	EA

END OF SECTION 00496

SECTION 00499

TEMPORARY PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Work covered in this section consists of furnishing and applying temporary pavement marking tapes.
B. All work performed is to be in accordance with:
   1. The *North Carolina Department of Transportation Standard and Specifications for Roads and Structures*, current edition.
   2. The *North Carolina Department of Transportation's Highway Design Branch Roadway Standard Drawings*, current edition.
   3. The Manual on Uniform Traffic Control Devices (MUTCD).
   4. The North Carolina Supplement to the MUTCD.
   5. Any project plans or sketches.
   6. Any project special provisions as attached.
   7. The Engineer.

1.02 TEMPORARY PAVEMENT MARKING LINES

A. Determination of Measurement: The quantity of temporary pavement marking tape to be paid for lines will be the actual number of linear feet which has been satisfactorily installed and accepted. The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Engineer may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient. An increase or decrease in the quantity of any item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work.
B. Basis for Payment: The quantity of temporary marking tape measured will be paid for at the contract unit price per linear foot installed.

1.03 TEMPORARY PAVEMENT MARKING SYMBOLS

A. Determination of Measurement: The quantity of temporary pavement marking tape to be paid for symbols will be the actual number of symbols which have been satisfactorily installed and accepted by the City Traffic Engineer. The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Engineer may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient. An increase or decrease in the quantity of any item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work.
B. Basis for Payment: The quantity of temporary marking tape measured will be paid for at the contract unit price for each symbol installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials to be used are 3-M Scotch Lane removable tape #5710 (white or yellow) and Black Line mask #145 or approved equal.

B. Materials other than those listed above must be determined to be an approved equal by the City Traffic Engineer prior to use.

PART 3 EXECUTION

3.01 WORK

A. Work: Labor, placement, removal, disposal, materials, equipment and any other necessary incidentals.

3.02 TEMPERATURE

A. Air and pavement temperature must be at least 50 degrees F and rising.

3.03 PREPARATION

A. Road surface shall be cleaned with high pressure air or by sweeping.

B. Mark pavement where tape is to be applied.

3.04 INSTALLATION

A. Temporary pavement marking tapes shall be applied per manufacturer's instructions.

B. Do not overlap material--use butt splices.

3.05 TAMPING

A. Tape must be tamped, a minimum of three (3) passes back and forth, using one of the following methods:
   1. Roller tamper cart with a minimum load of 200 pounds.
   2. Driving a vehicle tire slowly (2-3 MPH) over the tape.

B. Do not twist or turn the tamping device on the tape.

C. Ensure all edges have firmly adhered before opening to traffic.

3.06 REMOVAL

A. For your own safety, wear gloves and eye protection when removing temporary pavement marking tape.

B. Use a chisel-like tool to pry up the edge of the tape.

C. Pull the tape up at a 90-degree angle to the pavement.

D. Burning or grinding is not recommended.

Pay Item	**Pay Unit**
Temporary Pavement Marking Lines	LF
Temporary Pavement Marking Symbols	EA

END OF SECTION 00499

SECTION 02810

IRRIGATION SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Work to be done includes furnishing all labor, materials, equipment and services required to complete all irrigation work indicated on the Drawings, as specified herein, or both.

B. Trench excavation, backfilling and bedding materials, together with the testing of the completed installation shall be included in this work.

C. Record Drawing as well as Operating & Maintenance Manual generation, in accordance to these specifications shall also be included in this work.

D. Determination of Measurement: No measurement shall be made for this item.

E. Basis of Payment: Payment will be lump sum for complete installation of the irrigation system as shown.

F. The Contractor shall include in his bid any charges by the Water Department, Utility Company, or other authorities for work done by them and charged to the Contractor.

1.02 ORDINANCES, PERMITS AND FEES

A. The Work under this Section shall comply with all ordinances and regulations of authorities having jurisdiction.

B. The Contractor shall obtain and pay for any and all permits, tests and certifications required for the execution of Work under this Section, including water supply tap fee.

C. Furnish copies of Permits, Certifications and Approval Notices to the Owner's Representative prior to requesting payment.

1.03 QUALITY ASSURANCE

A. Installer: A qualified firm which has experience in work of the type and size required by this Section, and which is acceptable to the Engineer.

B. Applicable requirements of accepted Standards and Codes shall apply to the Work of this Section and shall be so labeled or listed:
   1. American Society for Testing & Materials (ASTM)
   2. National Plumbing Code (NPC)
   3. National Electric Code (NEC)
   4. National Sanitary Foundation (NSF)
   5. American Society of Agricultural Engineers (ASAE)
   6. Underwriters Laboratories, Inc. (UL)
   7. Occupational Safety and Health Regulations (OSHA)

1.04 TESTS

A. Operational Test: After completion of the system, test the operation of entire system and adjust sprinklers as directed by the Engineer. Demonstrate to the Engineer that all irrigated areas are being adequately covered (See Part 3 - Execution).

1.05 SHOP DRAWINGS

A. The Contractor shall provide copies of product specification sheets on all proposed equipment to be installed to the Engineer for approval prior to the start of work, in

accordance with the parameters of Division-1. Work on the irrigation system may not commence until product sheets are submitted and approved. Submittals shall be marked up to show proper nozzles, sizes, flows, etc. Equipment to be included:

1. Sprinkler Heads
2. Valves: Manual and Automatic
3. Controller
4. Valve Boxes
5. Pipe and Fittings
6. Wire and Connectors
7. Quick Coupling Valves
8. Rain Sensor
9. Backflow Preventer/ Enclosure
10. Miscellaneous Materials

B. The Contractor shall maintain complete Record Drawings of the system as the project proceeds. Record Drawings shall specify sprinkler type; pop up height and nozzle for each sprinkler installed. Each valve box location to be referenced by distance from a minimum of two permanent locations. Controller, rain sensor, quick coupling valves, water meters, back flow prevention device and all other equipment shall be indicated on the drawings. All wire routing, wire size and splices shall be indicated. Main line pipe and wire route shall have two distinctly different graphic symbols (line types).

1.06 DELIVERY, STORAGE AND HANDLING

A. Store and handle all materials in compliance with manufacturer instructions and recommendations. Protect from all possible damage. Minimize on-site storage.

1.07 GUARANTEE

A. The Contractor shall obtain in the Owner's name the standard written manufacturer's guarantee of all materials furnished under this Section where such guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities that the Contractor may have by law.

B. In addition to the manufacturer’s guarantees, the Contractor shall warrant the entire irrigation system, both parts and labor for a period of one year from the date of acceptance by the Owner.

C. As part of the one-year warranty the Contractor shall perform the first year-end winterization and spring start-up for the irrigation system.

1.08 COORDINATION

A. The Contractor shall at all times coordinate his work closely with the Engineer to avoid misunderstandings and to efficiently bring the project to completion. The Engineer shall be notified as to the start of work, progression and completion, as well as any changes to the drawings before the changes are made. The Contractor shall also coordinate his work with that of his sub-contractors.

B. The Contractor shall be held responsible for and shall pay for all damage to other work caused by his work, workmen or sub-contractors. Repairing of such damage shall be done by the Contractor who installed the work, as directed by the Engineer.

1.09 MAINTENANCE AND OPERATING INSTRUCTIONS

A. Contractor shall include in his Bid an allowance for four hours of instruction of Owner and/or Owner's personnel upon completion of check/test/start-up/adjust operations by a competent operator The Engineer shall be notified at least one week in advance of check/test/start-up/adjust operations.

B. Upon completion of work and prior to application for acceptance and final payment, a minimum of three 3-ring, hard cover binders titled MAINTENANCE AND OPERATING INSTRUCTIONS FOR THE "Project Name", shall be submitted to the Engineer's office. After review and approval, the copies will be forwarded to the Owner. Included in the Maintenance and Operating binders shall be:
   1. Table of Contents
   2. Written description of Irrigation System.
   3. System drawings:
      a. One copy of the original irrigation plan;
      b. One copy of the Record Drawing;
      c. One reproducible of the Record Drawing;
      d. One copy of the controller valve system wiring diagram
   4. Listing of Manufacturers.
   5. Manufacturers' data where multiple model, type and size listings are included; clearly and conspicuously indicating those that are pertinent to this installation.
      a. "APPROVED" submittals of all irrigation equipment;
      b. Operation:
      c. Maintenance: including complete troubleshooting charts.
      d. Parts list.
      e. Names, addresses and telephone numbers of recommended repair and service companies. A copy of the suggested "System Operating Schedule" which shall call out the controller program required (zone run time in minutes per day and days per week) in order to provide the desired amount of water to each area under "no-rain" conditions.
   6. Winterization and spring start-up procedures.
   7. Guarantee data.

1.10 PROCEDURE

A. Notify all city departments and/or public utility owners concerned, of the time and location of any work that may affect them. Cooperate and coordinate with them in the protection and/or repairs of any utilities.

B. Provide temporary support, adequate protection and maintenance of all structures, drains, sewers, and other obstructions encountered. Where grade or alignment is obstructed, the obstruction shall be permanently supported, relocated, removed or reconstructed as directed by the Engineer.

PART 2 PRODUCTS

2.01 GENERAL

A. All materials to be incorporated in this system shall be new and without flaws or defects and of quality and performance as specified and meeting the requirements of the system. All material overages at the completion of the installation are the property of the Contractor and shall be removed from the site.

B. No material substitutions from the irrigation products described in these specifications and shown on the drawings shall be made without prior approval and acceptance from the Engineer.

2.02 PVC IRRIGATION PIPE

A. All pipe in sizes 1-1/2 inches and smaller shall be PVC, Class 200, Type 1120, SDR 21, Solvent-Weld PVC, conforming to ASTM No. D2241 as manufactured by Certainteed, Cresline, JM or equal.

2.03 PVC PIPE SLEEVES

A. All pipe sleeves beneath non-soil areas shall be PVC, Class 160 water pipe as manufactured by Certainteed, Cresline, JM or equal. Minimum sleeve size to be 2-inch.

2.04 WIRE CONDUIT

A. Conduit for wiring beneath non-soil areas shall be PVC, SCH-80 conduit, as manufactured by Certainteed, Cresline, JM or equal.

B. Conduit for above ground wiring to rain sensor or controller shall be galvanized, rigid metallic conduit.

2.05 PVC IRRIGATION FITTINGS

A. Fittings for solvent weld PVC pipe, shall be Schedule 40 solvent weld PVC fittings as manufactured by Dura, Lasco, Spears or equal.

B. All PVC threaded connections in and out of valves shall be made using Schedule 80 toe nipples and Schedule 40 couplers or socket fittings. Schedule 40 male threads will not be approved for installation.

C. PVC solvent shall be NSF approved, for Type I and Type II PVC pipe, and Schedule 40 fittings. Cement is to meet ASTM D2564 and F493 for potable water pipes. PVC solvent cement shall be Rectorseal Gold, or equal, and shall be used in conjunction with the appropriate primer.

D. All nipples to be schedule 80 PVC.

2.06 SPRAY SPRINKLERS

A. Full and part circle pop up spray sprinklers shall be pressure regulating, plastic construction with ratcheting riser, removable nozzle and check valve. Nozzle size shall be as indicated on the Drawings and in the legend. Pop-up height shall be 6 inches for turf and ground cover, 12 inches for shrubs and annual beds.

B. Sprinkler shall carry a minimum 3-year exchange warranty against defects. Sprinklers shall be manufactured by Toro model 570Z-PRX, Rain Bird model 1800-SAM-PRS or approved equal.

2.07 ROTARY SPRINKLERS

A. Rotary sprinklers shall be gear-driven, rotary type heads, designed for in-ground installation with integral check valves. Sprinkler shall be capable of covering a 34-40 foot radius and flow range of 1.6-6.8 gpm at 40 pounds per square inch of pressure. Sprinklers shall have a one hundred percent warranty for two years minimum against defects in workmanship.

B. The nozzle assembly shall elevate a minimum of four inches when in operation and retraction shall be achieved by a stainless steel spring. Riser assembly shall be plastic. A nozzle wiper seal shall be included in the sprinkler for continuous operation under the presence of sand and other foreign material.

C. All sprinkler parts shall be removable through the top of the unit through the removal of a heavy-duty threaded cap. The sprinkler shall have a 3/4" iron pipe size (IPS) water connection on the bottom of the sprinkler.

D. Sprinkler shall be as manufactured by Hunter Industries, model I20-ADV-15/35/80 or approved equal.

2.08 ELECTRIC CONTROL VALVES

A. Electric control valves shall be one, one and one half and two-inch remote control, diaphragm type, fiberglass or reinforced nylon body plastic valves with manual flow control,

manual bleed screw and 150 psi pressure rating. Valves shall be globe/angle combination configuration.

B. Valves shall be manufactured by Toro, model 252, Rain Bird, model PGA or approved equal.

2.09 VALVE BOXES

A. Valve boxes for single electric valves, isolation valves and quick coupling valves shall be 10-inch round valve boxes with metal detection and bolt down covers

B. Valve boxes for dual electric valves shall be 12-inch standard valve boxes with metal detection and bolt down covers.

C. Valve box extensions shall be provided as required for proper box depth.

D. Valve boxes shall be manufactured by Ametek or approved equal.

2.10 AUTOMATIC CONTROLLER

A. Controller shall be electronic in construction with capability of up to 10 hour run times per zone in increments of 1 or 10 minutes. Controllers to have minimum two independent programs, auto/off switch and be capable of manual, semi-automatic and automatic operation. Controller shall have water budgeting feature, sensor input terminal, locking, weather resistant plastic cabinet and internal transformer. Terminal strip connection shall be easily accessible. The controller shall be U.L. listed, 120 volt, 60 Hertz, A.C. type.

B. Controller shall be as manufactured by Toro, Custom Command Series, model CC-P-24, Rain Bird, Model ESP-24LX+ or approved equal.

C. Station quantity shall be minimum of 24.

2.11 QUICK COUPLING VALVES

A. The valve body shall be of cast brass construction with a working pressure of 125 psi. The valve seat disc plunger body shall be spring loaded so that the valve is normally closed under all conditions when the key is not inserted.

B. The top of the valve body receiving the key shall be equipped with a single slot and smooth face to allow the key to open and close the valve slowly with a one-half turn. The quick coupling valve shall be equipped with a locking vinyl cover.

C. The valve body construction shall be such that the coupler seal washer may be removed from the top for cleaning or replacement without disassembling any other parts of the valve.

D. Keys shall be single lug with 1-inch male thread and 3/4 inch female thread at the top.

E. Contractor shall provide two keys for quick couplers, two 1 inch x 1 inch swivel hose ells and two cover keys for quick coupling valves.

F. Quick coupling valves, keys and swivels shall be manufactured by Toro models 474-03, 464-01 and 477-02, Rain Bird models 44NP, 44K and SH-2 or approved equal.

2.12 WIRE

A. All valve control wire shall be minimum #14-awg, common #12-awg, single strand, solid copper, 600v, direct burial (UF) and shall meet all state and local codes for this service. Individual wires must be used for each zone valve. Common wire shall be white in color, control wire for spray and rotor zones shall be red in color, and spare wires, installed where indicated on the drawings shall be blue.

B. In ground wire connections shall be UL listed, manufactured by 3M, model DBY-6 splice kits or approved equal. All wire splices shall be made in valve boxes, at controller, or at valves.

C. Wire type and method of installation shall be in accordance with local codes for NEC Class II circuits of 30-volt A.C. or less.

2.13 ISOLATION VALVES

A. Isolation valves 2-1/2 inches and smaller in size shall be gate type, of bronze construction, US Manufacture, 600 WOG with steel cross handle and 200 psi rating. Gate valves to be as manufactured by Nibco, model T-113-irr, or approved equal.

2.14 SWING JOINTS

A. Sprinklers shall be installed on swing pipe assemblies, minimum length 6 inches, maximum 18 inches.

B. Quick coupling valves to be installed on one-inch brass swing joint, minimum 12-inches in length with Leemco model LS-120 stabilizer, or approved equal.

2.15 AUTOMATIC RAIN SENSOR

A. Rain sensor shall be plastic in construction with adjustable interruption point and 1/2-inch IPS threads. Rain sensor shall be manufactured by Hunter Industries, model Mini-Clik-C or approved equal.

2.16 BACKFLOW PREVENTION DEVICE

A. Back flow prevention device shall be as required by the water utility company.

2.17 CRUSHED STONE

A. Crushed stone shall be used under valve boxes and below all sprinklers.

2.18 SAND

A. Sand shall be used for backfilling of trenches; under, around and over PVC lines.

2.19 CONCRETE

A. Cement concrete for concrete base under enclosure shall be 2,500 psi, 1-1/2 inch aggregate.

2.20 BACK FLOW ENCLOSURE

A. The back flow prevention device enclosure shall be of a vandal and weather resistant nature manufactured entirely of marine grade aluminum alloy 5052-H32, with a wall thickness of 1/8 inch.

B. The mounting base shall be manufactured entirely of stainless steel. The main housing shall be of solid sheet construction punched on the sides with a rectangular pattern for viewing back flow prevention device operation. The length of the enclosure shall be expandable to allow for site adjustment. The enclosure shall have a mounting lip on one end and a locking mechanism on the other end. The mounting base shall be submerged into the concrete a minimum of two inches, and position the enclosure two and one half inches above the concrete for drainage purposes.

C. The locking mechanism shall be of the full release type, which allows for complete removal of the enclosure from its mounting base without the use of tools. The handle controlling the locking mechanism shall be concealed within the surface of the enclosure and provide for a padlock.

D. The enclosure shall be 30 inches high, 16 inches wide and 45 inches long. Unit shall be as manufactured by VIT Products, Inc., model SBBC-45AL or approved equal.

PART 3 EXECUTION

3.01 GENERAL

A. Work: Shall include labor, material, equipment, services and any other incidentals required for installation.

B. Examine all contract documents applying to this Section noting any discrepancies and bringing the same to the attention of the Engineer for timely resolution.

C. Make all field measurements necessary for the work noting the relationship of the irrigation work to the other trades. Coordinate with other trades (landscaping and other site work trades). Project shall be laid out essentially as indicated on the Irrigation Plans, making minor adjustments for variations in the planting arrangement. Major changes shall be reviewed with the Engineer prior to proceeding.

D. At all times, protect existing irrigation, landscaping, paving, structures, walls, footings, etc. from damage. Any inadvertent damage to the work of another trade shall be reported at once.

E. The mechanical point of connection for the irrigation system shall be a new tap of the domestic water supply provided by others, as specified.

F. The electrical point of connection for the irrigation system shall be to a 120-volt, 20-amp building electrical circuit provided by others.

G. The Drawings and Specifications must be interpreted and are intended to complement each other. The Contractor shall furnish and install all parts, which may be required by the Drawings and omitted by the Specifications, or vice versa, just as though required by both. Should there appear to be discrepancies or question of intent, the Contractor shall refer the matter to the Engineer for decision, and his interpretation shall be final, conclusive and binding.

H. The work shall be constructed and finished in every respect in a good, workmanlike and substantial manner, to the full intent and meaning of the Drawings and Specifications.

I. All necessary changes to the Drawings to avoid any obstacles shall be made by the Contractor with the approval of the Engineer.

3.02 PIPE AND FITTINGS INSTALLATION

A. Using proper width trencher chain, excavate a straight and true trench.

B. Loam encountered within the limits of trench excavation for irrigation mains and branch lines shall be carefully removed to the lines and depths as shown on the Drawings and stockpiled for subsequent replacement in the upper 6 inches of the trench from which it is excavated. Such removal and replacement of the quantities of loam shall be considered incidental to the irrigation system and no additional compensation will be allowed therefore.

C. Pipe shall be laid on undisturbed trench bottom provided suitable base is available - no rock larger than 1 inch or sharp edges; if not, excavate to 2 inch below pipe invert and provide sand base or #57 washed stone upon which to lay pipe.

D. Back filling shall be accomplished as follows: the first 10-inch of backfill material shall contain no foreign matter and no rock larger than 1 inch in diameter. Carefully place material around pipe and wire and tamp in place. Remainder of backfill shall be laid-up in 6-inch (maximum) lifts and tamped to compaction with mechanical equipment matching adjacent undisturbed area. Frozen material shall not be used for backfill.

E. Make all solvent-weld joints in strict accordance with manufacturer's recommendations, making certain not to apply an excess of primer or solvent, and wiping off excess solvent from each connection. Allow connections to set minimum 24 hours before pulling or

pressure is applied to the system. Provide for expansion and contraction as recommended. Wire shall be laid in same trench as mainline and at pipe invert (see Wire Installation).

F. Mainline pipe shall have minimum 24 inches of cover (excavate to invert as required by pipe size). Lateral pipe shall have minimum 16 inches of cover (excavate to invert as required by pipe size).

G. Cut plastic pipe with handsaw or pipe-cutting tool, removing all burrs at cut ends. All pipe cuts are to be square and true. Bevel cut end as required to conform to Manufacturer's Specifications.

H. Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the trench. At times, when installation of the piping is not in progress, the open end(s) of the pipe shall be closed by a watertight plug or other means. All piping, which cannot temporarily be joined, shall be sealed to make as watertight as possible. This provision shall apply during the lunch hour as well as overnight. Pipe not to be installed that day shall not be laid out. Should water enter the trench during or after installation of the piping, no additional piping may be installed or back filled until all water is removed from the trench. Pipe shall not be installed when water is in the trench, when precipitation is occurring, or when the ambient temperature is at 35ºF or below. PVC pipe shall be snaked in the trench to accommodate for expansion and contraction due to changes in temperature.

I. In installing irrigation pipe the Contractor shall route the pipe as necessary to prevent damage to tree roots. Where trenching must occur near trees, the Contractor shall provide proper root pruning and sealing methods to all roots 1 inch and larger.

J. Throughout the guarantee period it will be the responsibility of the Contractor to refill any trenches that have settled due to incomplete compaction.

K. Pulling of pipe will be allowed provided soil is suitable and specified depth of bury can be maintained.

3.03 ELECTRICAL WIRE CONDUIT INSTALLATION

A. Electrical conduit shall be installed in all non-soil areas, as well as for all above ground wiring to controllers and rain sensor.

3.04 PIPE SLEEVING INSTALLATION

A. Sleeving shall be installed wherever piping is going under a non-soil area, generally where indicated on the Drawings. Minimum cover over all sleeving pipe shall be 24 inches as shown on the detail.

3.05 ISOLATION VALVE INSTALLATION

A. Install isolation valves per detail where indicated on the Drawings. Install all isolation valves on a level #57 washed stone base so that they can be easily opened or closed with the appropriate valve wrench. Install specified valve box over each isolation valve.

3.06 VALVE BOX INSTALLATION

A. Furnish and install a valve access box for each electric valve, quick coupling valve, isolation valve, and wire splice.

B. All valve access boxes shall be installed on a minimum 4-inch #57 washed stone base. Finish elevation of all boxes shall be at grade. All stone to be supplied by the Contractor and installed before valve box. Stone shall not be poured into previously installed valve boxes.

3.07 24 VOLT CONTROL VALVE INSTALLATION

A. Control valves shall be installed on a level #57 washed stone base. Grade of bases shall be consistent throughout the project so that finish grades fall within the limits of work. Valves

shall be set plumb with adjusting handle and all bolts, screws and wiring accessible through the valve box opening.

B. Adjust zone valve operation after installation using flow control device on valve.

3.08 WIRING INSTALLATION

A. Wiring shall be installed along with the main line. Multiple wire bundles shall be cinched together at maximum 12-foot centers using plastic cable cinches and shall be laid beside, and at the same invert as, the irrigation lines. Sufficient slack for expansion and contraction shall be maintained and wiring shall at no point be installed tightly. Provide an additional 8 inches to 12 inches slack at all changes of direction. Wiring in valve boxes shall be a sufficient length to allow the valve solenoid, splice, and all connections to be brought above grade for servicing. This additional slack shall be coiled for neatness in the valve box. Each valve shall have a separate wire back to the controller.

B. All wire shall be laid in trenches and shall be carefully backfilled to avoid any damage to the wire insulation or wire conductors themselves. In areas of unsuitable material, the trench shall have a 2 inches layer of sand or stone dust on the bottom before the wires are laid into the trench and backfilled. The wires shall have a minimum of 12 inches of cover. Wire not to be installed that day shall not be laid out.

C. An expansion curl shall be provided within 6 inches of each wire connection to a solenoid and at least every 100 feet of wire length on runs more than 100 feet in length. Expansion curls can be formed by wrapping five (5) turns of wire around a 1-inch diameter or larger pipe and then withdrawing the pipe.

D. Provide a common ground wire of white color. No white color shall be used for power wire. Control wire shall be red, and spare wiring shall be blue in color.

E. Service wiring in connection with Drawings and local codes for 24-volt service. All in-ground wire connections shall be waterproofed with 3M DBY, or approved equal, splice kits. All splices shall be made in valve boxes (wire runs requiring splices between valve locations shall be provided in splice box--valve box shall be used). Splice locations shall be shown on the Record Drawings.

F. Contractor shall provide a complete wiring diagram showing wire routing for the connections between the controller and valves. See section one for the inclusion of wiring diagram in operation and maintenance manuals.

3.09 CONTROLLER INSTALLATION

A. Contractor to install controller on wall in mechanical room, generally where shown on the drawings. Contractor to wire valves and rain sensor into controller and set proper program.

B. Wire controller to 120-volt electrical supply provided to the controller locations by OTHERS.

C. Keys shall be turned over to Engineer.

3.10 RAIN SENSOR INSTALLATION

A. Install rain sensor on exterior building wall, generally where indicated on the drawings. Coordinate final location of rain sensor with Engineer. Rain sensor shall be in direct contact with the weather and not in contact with the irrigation spray.

B. Install rain sensor wiring within ½ inch conduit where exposed. All above ground wires shall be installed in conduits.

3.11 SPRINKLER INSTALLATION

A. Spray and rotary sprinklers shall be installed flush to grade on swing pipe assemblies, minimum length 6 inches, maximum 18 inches.

B. Adjust sprinkler zone pressure with flow control on valve.

C. Sprinkler installation prohibited inside City of Fayetteville right-of-way.

3.12 QUICK COUPLING VALVE INSTALLATION

A. Provide quick coupling valves where indicated on the Drawings.

B. Quick coupling valves to be mounted on 1-inch brass swing joint with stabilizer as per details.

3.13 BACKFLOW PREVENTION INSTALLATION

A. Install 1-1/2-inch reduced pressure back flow prevention assembly in above grade enclosure as specified.

3.14 BACK FLOW ENCLOSURE INSTALLATION

A. Install enclosure on concrete pad as indicated on the detail, generally where indicated on the drawings. Final location of enclosure shall be coordinated with the Engineer as to best screen the enclosure and deter vandalism. Final location shall also be coordinated with utility department to ensure proper placement of water supply line.

B. Concrete pad for back flow enclosure shall be 53 inches long by 24 inches wide by 8 inches deep.

3.15 CHECK/TEST/START-UP/ADJUST

A. Flushing:
   1. After all piping, valves and sprinkler bodies are in place and connected, but prior to installation of sprinkler internals, flush piping under a full head of water.

B. Testing:
   1. Leakage test: test all lines for leaks under operating pressure. Repair all leaks and re-test.
   2. Coverage test: perform a coverage test in the presence of the Engineer (notify Engineer at least seven (7) days in advance of scheduled coverage test). Engineer will determine if the water coverage is complete and adequate. Readjust heads and/or head locations as necessary or directed to achieve proper coverage.
   3. All testing shall be at the expense of the Contractor.

3.16 CLEANING AND ADJUSTING

A. At the completion of the work, all parts of the installation shall be thoroughly cleaned. All equipment, pipe, valves, and fittings shall be cleaned of grease, metal cuttings and sludge which may have accumulated by the operation of the system for testing.

B. Adjust sprinkler heads, valve boxes, and quick coupling valves to grade as required, so that they will not be damaged by mowing operations.

C. Continue sprinkler coverage adjustment as required by settlement, etc., throughout the guarantee period.

D. Each control zone shall be operated for a minimum of 5 minutes and all heads checked for consistency of delivering water. Adjustments shall be made to sprinklers that are not consistent to the point that they match the manufacturer's standards. All sprinklers, valves, timing devices or other mechanical or electrical components, which fail to meet these

standards, shall be rejected, replaced, and tested until they meet the manufacturer's standards.

3.17 ACCEPTANCE AND OPERATION BY OWNER

A. Upon completion of the work and acceptance by the Owner, the Contractor shall be responsible for the training of the Owner's Representative(s) in the operation of the system. Provide minimum 48 hours written notice in advance of test. The Contractor shall furnish, in addition to the Record Drawings and operational manuals, copies of all available specification sheets and catalog sheets to the Owner's personnel responsible for the operation of the irrigation system. The Contractor shall guarantee all parts and labor for a minimum period of one year from date of acceptance.

3.18 CLEAN UP

A. Upon completion of all installation work, Contractor shall remove all leftover materials and equipment from the site in a safe and legal manner.

3.19 WINTERIZATION

A. Winterization: If construction extends through winter after filling of system contractor shall winterize by completely draining to protect pipe from bursting prior to freezing temperatures. To adequately drain the system the following procedure must be followed:
   1. Air blow-out
      a. Set automatic controller stations to 2-1/2 minutes timing.
      b. Attach hose from portable air compressor to 1-inch air inlet installed on main line at back flow preventer.
      c. Operate compressor at 100 cubic feet per second at 60-80 psi.
   2. Manual drain valves: Open manual drain valves located at low points on the main line to drain main completely after air blow-out has been completed.
   3. Backflow Preventer: Rotate backflow unit at unions and open petcocks and drain. Reverse operation and tighten unions to resume irrigation.

Pay Item	**Pay Unit**
Irrigation System	LS

END OF SECTION 02810

SECTION 02831

CHAIN LINK FENCING

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 posts, frames, and concrete foundations.
   3. Chain link fabric and barbed wire.
   4. All appurtenances as herein
   5. Gates.

C. Determination of Measurement: Measurement shall be by the linear foot measured from center of post to center of post. No deduction will be made for gates.

D. Basis of Payment: Payment will be per linear foot per type of fence installed.

E. FENCE REMOVAL
   1. Work shall include labor, material, equipment, grading, and any other incidentals required for removal.
   2. Determination of Measurement: Measurement shall be by the linear foot measured from center post to center post. No deduction will be made for gates

Basis for Payment: Payment will be per linear foot per type of fence removed. Gates will be included in the linear foot price.

1.02 SYSTEM DESCRIPTION

F. Fencing Location
   1. Fence Height: As shown on drawings.
   2. Provide posts, bottom intermediate and top rails as indicated. Provide corner and brace assemblies. These items are considered incidental to the installation of fence.
   3. 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.

1.03 SUBMITTALS

G. Submit the following in accordance with Section, 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.

PART 2 PRODUCTS

2.01 FABRIC

A. Selvage: Fabric shall be twisted and barbed at both selvages. Both selvages of meshes less than 2 inches shall be knuckled. 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 gage).
   2. Coating: ASTM A392, 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:

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 1234, as determined by ASTM A 90 test method, and weights per foot as follows:

Actual OD Size (in)	NPS Size	Trade	Weight (lb/ft)
1.660	1 1/4	1 5/8	2.27
1.900	1 1/2	2	2.72
2.375	2	2 1/2	3.65
2.875	2 1/2	3	5.79
4.000	3 1/2	4	9.11

Top Rail: Manufacturer's longest lengths (21 feet) with expansion-type coupling, approximately 6 inches long for joining. Provide rail ends of other means for attaching top rail securely to each gate, corner, pull, and end post.

   1. Round Steel: 1.660-inch OD Type.

C. Steel posts for all fabric heights:
   1. Round Line or Intermediate Posts: 2.375-inch OD Type I steel pipe.
   2. Round End, Corner, and Pull Posts: 2.875-inch OD Type I steel pipe.

D. 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 foot.
      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. 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.

D. 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.

E. 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.

F. 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 (12 gauge) minimum

G. 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.

H. Tie Wire: (9-gauge) aluminum wire alloy ASTM B230 or equal.

I. Barbed Wire
   1. Provide three lines of 4-point pattern barbed wire. Barbed wire shall be double strand 12-1/2 gauge twisted wire with 14-gauge, 4 point round aluminum barbs spaced on approximately 5 inch centers conforming to the requirements of ASTM A121. Extension arms to accommodate barbed wire shall withstand a 250-pound pulldown load from end of arm and have a 3-inch apron around post. The topmost barbed wire shall be approximately 18 inches above the fabric and approximately 18 inches out from fence line. Barbed wire shall be securely fastened in slots by heavy wire pins. Arms having projections to bend down over barbed wire will not be acceptable.

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 387 with clean water to obtain a 2-inch 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. Provide 1-1/2 pair of hinges for each leaf over 6-foot nominal height.
      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. Work: Shall include labor, material, equipment, grading and any other incidentals required for installation. Fence to match existing fence material or as specified by the Engineer.

B. General: Install fence to comply with ASTM F 567. Do not begin installation and erection before final grading is completed, unless otherwise permitted.

C. 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.

D. 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.

E. 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.

F. 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.

G. 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.

H. 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.

I. Fabric: Pull fabric taut and tie to post, rails, and tension wires.

J. 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.

K. 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.

L. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.

M. Netting Ties: Fasten safety netting to tension cable and fence top rail with cable ties at 12” o.c.

N. Barbed Wire: Install three parallel wires on each extension arm on security side of fence, unless otherwise indicated. Pull wires taut.

O. 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.

Pay Item	**Pay Unit**
Fencing	LF
Gates	EA
Removal of Existing Fence	LF

END OF SECTION 02831

SECTION 02832

HANDRAILS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work shall consist of the installation of horizontal handrail to include joints, posts, and sleeves.
B. Basis of Payment: Payment will be by the linear foot measured from center post to center post of handrail installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Refer to Standard Detail Number SD-10 for material requirement.

B. Concrete shall meet requirements in section 00455.

PART 3 EXECUTION

3.01 INSTALLATION

A. The work shall include the fabrication, primer, paint, installation, core holes, grout and any other incidentals required for installation of horizontal handrail.
B. Installation of Handrails shall conform to SD-10

Pay Item	**Pay Unit**
Handrails	LF

END OF SECTION 02832

SECTION 02833

MAILBOXES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. The work shall consist of the removal and replacement or the removal, preservation, and resetting of all mailboxes disturbed by the construction operations.
B. Measurement and Basis of Payment: Payment shall be per each for the contract unit price for mailboxes installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Mailbox: Each replaced mailbox shall be a double door mailbox as described in SD-20.

B. Mailboxes shall be submitted to the Engineer or Designee for approval prior to installation.

PART 3 EXECUTION

3.01 RELOCATE OR RESET MAILBOX

A. When reset, the mailboxes and their supports shall be left in as good condition as they were before removal. The Contractor will not be required to furnish new material when resetting a mailbox except as required to repair damage resulting from construction operations

3.02 INSTALLATION (REMOVE AND REPLACE)

A. The work shall include removal of the existing mailbox and installation of a new double door mailbox placed in utility strip or designated location. The street side of the mailbox must be at a minimum of 6” and at a maximum of 8” from the edge of pavement or face of curb. Refer to SD-20.

Pay Item	**Pay Unit**
Remove and Replace Mailbox	EA
Relocate or Reset Mailbox	EA

END OF SECTION 02832

SECTION 02931

SOD

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Work: Sod, pest control, disease control, anchoring, placing, soil amendments, fertilizer, topsoil, grading, raking, sod bed preparation, water, maintenance, sod replacement, protection, damage repair and other incidentals required.

B. Determination of Measurement: Measurement shall be to the nearest square yard.

C. Basis of Payment: Payment will be at the contract unit price per square yard of sod installed.

PART 2 PRODUCTS

2.01 MATERIAL

A. Materials, equipment and products incorporated in the work shall be approved by the Engineer. The Contractor shall submit a list of the proposed materials with samples, if required. Package materials should be delivered in unopened original containers showing weight, analysis and name of manufacturer. Protect material from deterioration.

B. Sod shall contain 95 percent permanent grass; not more than 5 percent weeds and undesirable grasses, good texture and free from obnoxious 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. 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.

C. Sod shall be sourced locally depending on availability.

PART 3 EXECUTION

3.01 REQUIREMENTS

A. Restoration and sod shall be performed as soon as practical, but the time period between initial disturbance, the utility installation and sod placement shall not exceed 60 days. Any area where work is completed shall be restored within 7 days. Sod is defined as blocks, squares, strips of turf grass and adhering soil used for vegetative planting.

B. Sodding and preparation of the sod bed shall be performed by an experienced landscape subcontractor specializing in this type of operation unless otherwise approved by the Engineer in writing. The Contractor shall adhere to the standards set forth by the American Association of Nurseryman and the Associated Landscape Contractors of America. All personnel shall be appropriately trained with regard to the degree of involvement so to assure the owner of the highest level of workmanship. Sod species suitable in this area are Hybrid Bermuda, Centipede and Zoysia; however, the sod placed for each individual's lawn shall be the same species of sod as existing. Sodding may be performed at any time of the year except frozen sod shall not be placed nor shall sod be placed on frozen ground. The Contractor shall adapt his operations to variations in weather or soil conditions as necessary

for the successful establishment and growth of a vigorous, disease free and weed free sod lawn.

3.02 SOIL BED PREPARATION

A. Before landscape construction is to begin, the site shall be cleaned and disposed of brush, rubbish, stones, gravel and other foreign material within the area to be landscaped. Exposed ground surfaces disturbed during construction activities shall be graded to the original contours allowing for the thickness of the sod or as in the case of an altered contour such as a fill slope, graded as directed by the Engineer to finish grade, or typical cross section. The sod bed shall be excavated to such a depth that after sod placement the top of the sod shall be flush with surrounding grade or contours. Rake areas to be sodded smooth, free from unsightly variations, bumps, ridges or depressions. Do not start work until conditions are satisfactory and do not work during inclement or impending inclement weather.

B. The surface area to receive sod shall contain a minimum of 4 inches of good, fertile, friable, organic natural topsoil loam as a base for laying the sod. Topsoil shall be free of clumps, brush, sticks, weeds, stones, roots, trash or other objectionable material. Contractor shall ensure all topsoil to be free of plants or plant parts of Quackgrass, Johnson grass, nut sedge, poison ivy or other noxious weeds. Soil preparation shall not be performed in frozen or extremely wet conditions. The finished topsoil bed shall be uniform in grade, with a yard like appearance. All changes in grade shall have smooth, rounded peaks and valleys.

C. The soil shall be scarified or otherwise loosened to a depth of not less than 5 inches and all clods shall be broken. The top 4 inches shall be worked into an acceptable smooth, friable and uniformly fine texture sod bed by use of soil pulverizes, drags, harrows or by other methods approved by the Engineer. Commercial grade fertilizer containing 8% Nitrogen, 8% Phosphate, 8% Potassium (Potash) shall be applied at a rate of 20 pounds per 100 square feet. Super-Phosphate at 12 pounds per 1000 square feet. Dolomite limestone (Lime) containing not less than 85% total carbonates shall be applied at a rate of 25 pounds per 1000 square feet, or at a rate recommended for the type of sod being placed. Apply soil amendments within 24 hours after raking topsoil base surface and not more than 48 hours prior to laying sod. Mix thoroughly a minimum depth into the upper 4 inches of topsoil and lightly water to aid in dissipation. Sod placement shall not begin until the soil preparation is inspected and approved by the Engineer. During application of soil amendment fertilizer etc., adequate precautions shall be taken to prevent damage to existing features such as traffic, structures, landscape, trees, vegetation, utilities or any other appurtenances. The Contractor shall be required to repair or clean any damages.

3.03 PLACING SOD

A. 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. 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. 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.

B. Ensure sod that abuts valve box covers, manhole covers and/or utility poles, walks, etc, and 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.

C. 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. The type of rolling and tamping equipment to be used shall be submitted to the Engineer for approval prior to construction. On slopes 3:1 horizontal to 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 into 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. 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. 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.

3.04 MAINTENANCE

A. The Contractor shall, at no additional cost to the Owner, make whatever arrangements necessary to ensure an adequate supply of water to meet the needs of this Contract. The Contractor shall supply water of suitable quality and purity to sustain and encourage vigorous plant growth and supply all equipment for proper de1ivery and application to planted areas. Water obtained from PWC fire hydrant shall be metered and properly protected with an approved backflow prevention device. All costs for water use shall be borne by the Contractor. PWC must inspect and approve any connections to their water system to include the proposed water application and storage equipment. The Contractor shall not use private resident's water. The Contractor is solely responsible to provide watering of the sod. The Engineer shall approve the method of application of water. Limit watering to early morning or late afternoon to enable the soil to absorb the maximum amount of water with limited runoff.

B. Maintenance shall begin immediately after sodding operation. Contractor shall provide a written schedule to the Engineer of proposed maintenance methods and scheduled maintenance. The Contractor shall maintain all sodded areas until sod is firmly established and as outlined below. Maintenance will include watering, fertilizer, pest control, soil amendments, disease control, erosion repair, mowing, protecting turf area from traffic (i.e. temporary fences, barriers, signs, etc.) and replacement of any dead or damaged sod.
   1. Watering
      a. Water lawn areas once a day with a minimum 1/2-inch water for the first 3 weeks after area sodded.
      b. After the 3-week period, water twice a week with a 3/4-inch of water each time unless a comparable amount of rainfall has occurred.
      c. Make weekly inspections to determine moisture content of soil and supplement the above watering schedule as needed.
      d. Excessive runoff, puddling, and wilting shall be prevented.

2. Fertilizer and Pest Control
    a. Evenly spread fertilizer composite at a rate of 40 pounds per 5000 square feet or as recommended by the manufacturer. Fertilizer shall not be applied until 2 weeks after initial placement of the sod or prior to the advent of winter
    b. Treat areas of weed and insect infestation as recommended by the treatment manufacturer.
3. Mowing
    a. The Contractor shall do mowing operations, in yards not being mowed by residents until provisional acceptance.
    b. Mowing shall be done only when the grass is dry with a rotary type mower having a blade height set not lower than l 1/2 inches nor higher than 3 inches.
    c. Mowing operations shall be conducted at intervals which ensure grass height does not exceed 4 inches between mowing.
    d. The Contractor shall complete at least one mowing operation before the work will be considered for provisional acceptance.
    e. The Contractor shall protect and not allow access of vehicular traffic into any newly sodded areas and shall repair any damaged turf to original grade. Maintenance shall continue for a period of one year after placement or until provisional acceptance by the Engineer. A written record shall be furnished to the Engineer of the maintenance work performed. At least two weeks shall elapse after chemical control is applied before a request of inspection.

3.05 ACCEPTANCE

A. Fifteen days prior to the end of the one year maintenance period, the Contractor shall make written request to the Engineer for an inspection and provisional acceptance of the sod. Failure to notify the Engineer will not relieve the Contractor of the maintenance provisions required and the Contractor will continue to be responsible for the maintenance of the sod.

B. Replacement of dead sod shall be performed within 7 days after notification by the Engineer and the maintenance period for these areas or individual lawns shall be extended for the 90-day maintenance period. Failure to replace dead sod within the specified 7-day period will result in the Owner having the work performed and deducting the cost from the Contract, however, the Contractor shall be responsible for the maintenance and if necessary replacement of sod.

C. Final acceptance will be given upon satisfactory contract performance exhibited at final inspection and acceptance. Sodded areas are to be fully rooted prior to acceptance. The Engineer shall be the sole judge as to whether or not the lawns are acceptable. Should any deficiencies be disclosed at final inspection, the Contractor shall make the necessary corrections in a timely manner and request re-inspection.

D. After the completion of the project, the Contractor will provide a warranty letter for one year.

3.06 GUARANTEE

A. The Contractor shall guarantee a dense, vigorous stand of turf free of weeds, disease, pests or any dead areas more than one half of a square foot in size for a period of one year from initial placement or replacement whichever is greater. Total dead area shall not exceed 1% of total square footage for each individual resident's lawn.

Pay Item	**Pay Unit**
Sod	SY

END OF SECTION 02931

SECTION 02932

SEEDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work consists of providing all labor, material, equipment, and services required for all work as described herein and indicated on drawings.
   1. Work specified in this section:
      a. Preparation and placement of topsoil. Seeding required within 24 hours after preparation.
      b. Initial maintenance of all planting.

B. Measurement: Per acre seeded as specified in the plan, except when less than 1 acre, then square yard as measured in the field.

C. Basis for Payment: Payment shall be on a contract unit price per acre that is seeded, except when less than one acre then square yards will be used.

PART 2 PRODUCTS

2.01 MATERIALS

A. Substitutions for any materials will not be permitted unless authorized in writing by the City.

B. Topsoil:
   1. Topsoil shall be fertile, friable, natural topsoil typical of topsoil of the locality. The topsoil shall be stripped so that there is no admixture of subsoil and shall be free from clay clumps, stones, roots, or similar substances two inches or more in diameter, debris, or other objects which might be a hindrance to planting operations. The City reserves the right to reject topsoil in which more than 60 percent of the materials passing V.S.S. #100 sieve consist of clay as determined by the Bonyoucous Hydrometer by the dried weights of the materials.

C. Soil Additives:
   1. Manure: Well-rotted, unleached, sterilized stable manure which is free of wood shavings, sawdust, or other undesirable litter and contains no chemical or other ingredients harmful to plants and shall not be less than 9 months old and not more than 2 years.
   2. Peat: Domestic product consisting of partially decomposed vegetable matter of natural occurrence. It shall be brown, clean, and low in content of mineral and wood material, mildly acid, and granulated or shredded.
   3. Lime: Shall be ground limestone (Dolomite) containing not less than 85 percent of total carbonates and shall be ground to such a fineness that 50 percent will pass through a 100-mesh sieve and 90 percent will pass through a 20-mesh sieve. Coarser material will be acceptable, provided the specified rates or application are increased proportionately on the basis of quantities passing through the 100-mesh sieve.
   4. Fertilizer:
      a. In Turf Areas, Ground Covers, and Flowers, fertilizer shall be of a controlled release formula and shall conform to the applicable State Board of Agriculture fertilizer laws. It shall be uniform in composition, dry and free-flowing, and shall be delivered to the site in the original, unopened containers, each bearing the

manufacturer's guaranteed analysis. Any fertilizer which has become caked or otherwise damaged will not be acceptable.

b. All fertilizer and soil conditioners shall be standard brand agricultural products.

D. Mulch: Use grain straw as mulch at any time of the year. If permission to use material other than grain straw is requested and the use of such material is approved by the Engineer, the season limitations, the methods and rates of application, the type of binding material or other conditions governing the use of such material will be established by the Engineer at the time of approval. Apply mulch within 24 hours of seeding unless otherwise permitted. Spread mulch uniformly by hand or by approved mechanical spreader or blower.

E. Plant Materials: Certificates of inspection shall accompany the invoice for each shipment of seeds as may be required by laws for transportation. Deliver certificates to the City prior to acceptance of the material.

2.02 SOURCE QUALITY CONTROL AND TESTS

A. Testing and Inspection: The City shall be notified of the sources of the materials required, desired to be inspected or tested.

B. Testing:

1. Topsoil: All new loam or stripped topsoil shall be tested and approved for use by the Engineer prior to being spread. Stripped material may be used if approved and shall be stockpiled so as not to interfere with the other work or with other subgrade of fill materials.
2. Testing other than soil testing shall be paid for by the City if the City deems the testing necessary.

C. Inspections:

1. All areas to be planted shall be inspected by the Planting Contractor before starting work. Any defects, such as incorrect grading, etc., shall be reported to the City prior to beginning this work. The commencement of work by the Contractor shall indicate his acceptance of the areas to be planted, and he shall assume full responsibility for the work of this Section.
2. During construction and installation, onsite inspections by the City will be made periodically to ensure proper implementation of design. The City retains the right to accept or reject any material or other incidentals needed to complete the project in whole or part and also may stop all work until all discrepancies are resolved.
3. Any work scheduled beyond normal working hours or on weekends, shall be brought to the attention of the City Inspector for approval. Any work accomplished during these hours and in question will be subject to being done over at the request of the City, at no additional cost to the City.
4. The City will inspect topsoil to be used to determine whether or not it meets the requirements specified.
5. City representative shall be present during the application of post emergent sterilization.
6. After completion of project, Contractor will provide a one year warranty letter.

PART 3 EXECUTION

3.01 SUBMITTALS

A. Construction sequence and time schedule.

B. Soil additives and mulch materials.

C. Fertilizers, sterilants, herbicides.

D. Monthly maintenance record: List all herbicides, insecticides, and disease control chemicals used; list a corrective action or replacement of work performed.

E. Suggested maintenance plan for maintenance by City to include chemical recommendations, amount of watering and all other proper care necessary to assure quality plant growth.

F. All other materials: Manufacturer and the product designation.

3.02 MAINTENANCE

A. The Maintenance Period shall extend for a period of one year dating from final inspection.

B. Maintenance requirements:
   1. Maintenance shall include mowing, watering, weeding, leaf raking, fertilizing, and all other care dictated by the standard of the best horticultural practices. In the event the irrigation system is inoperable or in the absence of such system, it shall be the responsibility of the landscape Contractor to supply sufficient watering from the beginning of planting through the one year warranty period at no additional cost to the City.
   2. Maintain all seeded areas from the time of installation until final acceptance of the entire work.
   3. Keep all seeded areas clean and free of weeds, rubbish, and debris at all times.
   4. Seeded areas shall be protected at all times against trespassing and damage of all kinds for the duration of the maintenance period. If any areas become damaged or injured, they shall be treated or replaced as directed by the City at no additional cost to the City.

C. Final inspection and acceptance:
   1. Prior to request for final inspection, Contractor shall again thoroughly clean all seeded areas.
   2. Final inspection will be made upon request and upon notification that Maintenance Period has ended.
   3. Acceptance will be given upon satisfactory findings in the final inspection or upon satisfactory correction of any deficiencies disclosed by the final inspection.

3.03 COORDINATION

A. Coordinate with installation of irrigation system.

B. Coordinate with all earth work and site work.

3.04 INSTALLATION

A. Work: Shall include the full width of the disturbed area for the cleanup and seeding. Work shall include, but not be limited to, the following:
   1. Removal and proper disposal of debris and excess material.
   2. Grade disturbed areas to original or proposed surface profile.
   3. Cleaning of paved surfaces.
   4. Proper seeding, fertilizing, mulching and other incidentals necessary to properly seed project area.

B. Soil Preparation:
   1. Add any amendments necessary to bring topsoil up to standard specified in section 00426.
   2. All topsoil must be approved by Engineer.
   3. Coordinate with irrigation work, if any, to assure all lines have been installed prior to placement of topsoil or any other preparation for planting areas.
   4. Rough grades for planting areas have been left 8-12 inches below adjacent paving and/or curbing under work of General Contractor. Landscape Contractor should plan to provide soil and labor to backfill curbing and sidewalk and should coordinate the work

with the general Contractor as his work progresses. It shall be the responsibility of the Landscape Contractor to provide the specified grade for planting areas -- City will not be responsible for any excavation needed to acquire desired depth.

5. Debris removal: In all seeding areas, remove and dispose of all wire, rubbish, debris, concrete waste, base rock, or other plant materials which might hinder soil preparation, grading, seeding, or subsequent maintenance. Rake to smooth soil.
6. Scarify existing earthwork: Soil in all on-grade paling areas shall be ripped or cultivated to depth of 10 inches. Water shall be added and ripping or cultivating shall be continued until the entire specified depth is loose and friable. All debris, pavement, concrete, and rocks over 2 inches in diameter shall be removed to the specified depth and shall be removed from the site.
7. Place approved topsoil at grade in seeding areas.
8. Rake soil smooth to finished grade, pitched evenly for drainage. Round all changes in gradient and eliminate all depressions where water will pool.
9. Water areas to settle soil. After drying, correct low spots, irregularities, and reestablish finished grade.

C. Finished Grading: When weeding, soil preparation, and soil conditioning have been completed and soil has been thoroughly water settled, all planting areas shall be smooth graded, ready for placement of plant materials and for seeding and/or sodding.

D. Seeded Lawn Areas:
   1. General:
      a. Once site is prepped with lime and fertilizer, it shall be seeded within a 24 hour period.
      b. Seed all lawn areas not covered by sod or other planting areas within scope of construction.
      c. After the areas have been loosened, conditioned, and finish graded as previously specified, they shall be hand raked to remove all clods, weeds, roots, debris and rocks 1 inch in diameter and larger.
      d. Final grades shall be approved by the City prior to seeding.
      e. After final grading has been accepted, no heavy equipment (except lawn rollers) will be allowed onto planting surfaces. Any damaged areas will be prepared using previous method.
      f. De-thatching shall be done in areas not requiring topsoil and grading work and in areas where existing lawn will be top seeded. Use a motor driven de-thatcher to remove all thatch buildup and loosen all areas to be seeded. Area should be hand raked and all debris promptly removed. All seeding shall take place within 24 hours following dethatching. City shall approve all areas for seeding prior to doing so.
   2. Seed Selection:
      a. Seed quantities and mixtures as specified on drawings.
      b. Provide seed complying with the official seed analysis of North America with respect to purity and germination percentages.
      c. Seed should be newly packaged seed (not greater than one year) and should arrive at the job site in the original container. City retains the right to inspect seed specification tag remaining intact on container.
      d. Do not use any seed that has been dampened, moldy, or suffered any other damage in transit or storage.

3. Seed Schedule

COMMON NAME	MIN SEED PURITY	MIN GERMINATION	MAX WEED SEED
Bermuda	90%		1.00%
Fescue tall, (Ky, 31)	98%		1.00%
Wheat	98%	90%	0.10%
German Millet	98%	90%	0.10%

POUNDS PER ACRE				
	K-31 Fescue	**German Millet**	**Bermuda Hulled**	**Bermuda Unhulled**
March 15 – Sept 15	100	25	25	--
	K-31 Fescue	**Wheat**	**Bermuda Hulled**	**Bermuda Unhulled**
Sept 15 – March 15	100	30		30

4. Once the seed is applied, the area shall be very lightly raked, either by hand or by mechanical means. All road right-of-ways and/or private grounds shall also be reseeded or sodded with the same type of grass previously found. The seed mixture specifications shall be used as a guide and the Contractor is charged with the responsibility of seeding areas with the proper type of grass existing.
5. All seeded areas will be mulched with 4000 pounds per acre of small grain straw spread uniformly. Approximately 1/4 of the ground should be visible to avoid smothering seedlings. Asphalt emulsion may be used to anchor the straw applied at 150 gal/ton of straw. If asphalt emulsion is used, the Contractor shall not deface buildings, curbs or plantings with asphalt materials. The Contractor shall take sufficient precautions to prevent mulch from entering drainage structures through displacement by wind, water or other causes and promptly remove any blockage which may occur.

3.05 CLEANING

A. Any soil or similar material which has been brought into paved areas by hauling operations or otherwise shall be removed promptly, keeping these areas clean at all times.

B. Upon completion of work under this section, all excess stones, debris, and soil resulting from work under this section which have not previously been cleaned up shall be cleaned up and removed from the project site.

C. All pavements shall be broomed and hosed clean.

3.06 CONTRACT CLOSEOUT

A. Final Inspection:
1. Prior to requesting final inspection, Contractor shall have completed all of the work of seeding. All seeding areas shall be cleaned of all rubbish and debris, all adjacent pavement or surfaces shall be clean, and entire work shall be neat and presentable.
2. The final inspection will be made upon request and upon notification that all work installation is completed.
3. Approval will be given upon satisfactory findings in the final inspection or upon satisfactory correction of any deficiencies disclosed by the final inspection.

PAY ITEM:	**PAY UNIT:**
Seeding	AC or SY

END OF SECTION 02951

SECTION 02950

TREES, PLANTS, AND GROUND COVER

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation of soil.

B. Topsoil bedding.

C. Relocation of trees, plants and ground cover.

D. Mulch and fertilizer.

E. Maintenance.

F. Tree Pruning.

G. Determination of Measurement: Measurement shall be for each unit.

H. Basis of Payment: Payment will be at the contract unit price per each unit installed.

1.02 REFERENCES

A. ANSI Z60.1 - Nursery Stock.

B. NAA (National Arborist Association) - Pruning Standards for Shade Trees.

1.03 DEFINITIONS

A. Weeds: Any plant life not specified or scheduled.

B. Plants: Living trees, plants, and ground cover specified in this Section, and described in ANSI Z60.1.

1.04 SUBMITTALS - PROJECT CLOSEOUT

A. Maintenance Data: Include cutting and trimming method; types, application frequency, and recommended coverage of fertilizer.

B. Submit list of plant life sources.

1.05 QUALITY ASSURANCE

A. Nursery Qualifications: Company specializing in growing and cultivating the plants with three years' experience.

B. Installer Qualifications: Company registered and specializing in installing and planting the plants with 3 years' experience.

C. Tree Pruner Qualifications: Company specializing in pruning trees with proof of Arborist Certification.

D. Tree Pruning: NAA - Pruning Standards for Shade Trees.

E. Maintenance Services: Performed by installer.

1.06 WARRANTY

A. Provide one year warranty.

B. Warranty: Includes coverage for one continuous growing season; replace dead or unhealthy plants.

C. Replacements: Plants of same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

1.07 MAINTENANCE SERVICE

A. Maintain plant life for 12 months after Date of Substantial Completion.

B. Maintain plant life immediately after placement until plants are well established and exhibit a vigorous growing condition. Continue maintenance until termination of warranty period.

C. Maintenance to include:
   1. Cultivation and weeding plant beds and tree pits.
   2. Applying herbicides for weed control in accordance with manufacturer's instructions. Remedy damage resulting from use of herbicides.
   3. Remedy damage from use of insecticides.
   4. Irrigating sufficient to saturate root system.
   5. Pruning, including removal of dead or broken branches, and treatment of pruned areas or other wounds.
   6. Disease control.
   7. Maintaining wrapping, guys, turnbuckles, and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.
   8. Replacement of mulch.

PART 2 PRODUCTS

2.01 TREES, PLANTS, AND GROUND COVER

A. Trees, plants and ground cover: Species and size identifiable in plant schedule, grown in climatic conditions similar to those in locality of the Work.

2.02 SOIL MATERIALS

A. Topsoil: Fertile, agricultural soil, capable of sustaining vigorous plant growth; free of subsoil, clay or impurities, plants, weeds and roots

2.03 SOIL AMENDMENT MATERIALS

A. Fertilizer: Nitrogen 5 percent, phosphoric acid 10 percent, soluble potash 5 percent.

B. Lime: Ground limestone, dolomite type, minimum 95 percent carbonates.

C. Water: Clean, fresh, and free of substances or matter which could inhibit vigorous growth of plants.

2.04 MULCH MATERIALS

A. Mulching Material: Hardwood mulch.

2.05 ACCESSORIES

A. Wrapping Materials: Burlap.

B. Stakes: Softwood lumber w/ pointed end. Mild steel angle, galvanized, pointed end.

C. Cable, Wire, Eye Bolts, and Turnbuckles: Non-corrosive, of sufficient strength to withstand wind pressure and resulting movement of plant life.

D. Plant Protectors: Rubber sleeves over cable to protect plant stems, trunks, and branches.

2.06 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide composition.

B. Plant Materials: Certified by state department of agriculture. Described by ANSI Z60.1, free of disease or hazardous insects.

PART 3 EXECUTION

3.01 WORK

A. Preparation of subgrade and topsoil, placing soils, planting, watering and maintenance.

3.02 COORDINATION

A. Install plant life after and coordinate with installation of underground irrigation system piping and watering heads specified in Section 02810.

3.03 EXAMINATION

A. Verify that prepared subsoil is ready to receive work

B. Saturate soil with water to test drainage.

C. Verify that required underground utilities are available, in proper location, and ready for use.

3.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

B. Protect and maintain plant life until planted.

C. Deliver plant life materials immediately prior to placement. Keep plants moist.

3.05 PREPARATION OF SUBSOIL

A. Prepare subsoil to eliminate uneven areas. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.

C. Scarify subsoil to a depth of 3 inches where plants are to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

D. Dig pits and beds 6 inches larger than plant root system.

3.06 PLACING TOPSOIL

A. Spread topsoil to a minimum depth of 4 inches over area to be planted. Rake smooth.

B. Place topsoil during dry weather and on dry unfrozen sub-grade.

C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.

D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

E. Install topsoil into pits and beds intended for plant root balls, to a minimum thickness of 6 inches.

3.07 FERTILIZING

A. Apply fertilizer in accordance with manufacturer's instructions.

B. Apply after initial raking of topsoil.

C. Mix thoroughly into upper 2 inches of topsoil.

D. Lightly water to aid the dissipation of fertilizer.

3.08 PLANTING

A. Place plants for best appearance for review and final orientation by Architect/Engineer.

B. Set plants vertical.

C. Remove non-biodegradable root containers.

D. Set plants in pits or beds, partly filled with potting soil, at a minimum depth as indicated on drawings under each plant. Loosen burlap, ropes, and wires, from the root ball.

E. Place bare root plant materials so roots lie in a natural position. Backfill soil mixture in 6-inch lifts. Maintain plant life in vertical position.

F. Saturate soil with water when the pit or bed is half full of topsoil and again when full.

3.09 PLANT RELOCATION AND RE-PLANTING

A. Relocate plants as directed by Engineer.

B. Re-plant plants in pits or beds, partly filled with prepared topsoil mixture, at a minimum depth as indicated on drawings under each plant. Loosen burlap, ropes, and wires, from the root ball.

C. Place bare root plant materials so roots lie in a natural position. Backfill soil mixture in 6-inch layers. Maintain plant materials in vertical position.

D. Saturate soil with water when the pit or bed is half full of topsoil and again when full.

3.10 FIELD QUALITY CONTROL

A. Field inspection and testing.

B. Plants will be rejected if a ball of earth surrounding roots has been disturbed or damaged prior to or during planting.

3.11 MAINTENANCE

A. Neatly trim plants where necessary.

B. Immediately remove clippings after trimming.

C. Water to prevent soil from drying out.

D. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions.

E. Apply pesticides in accordance with manufacturer’s instructions.

Pay Item	**Pay Unit**
Trees, Plants and Ground Cover	EA
Plant Relocation and Replanting	LS

END OF SECTION 02950

SECTION 04000

MASONRY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. The General Provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this Section.

1.02 DESCRIPTION OF WORK

A. Mortar

B. Brick masonry

C. Cast Stone

D. Unit pavers

1.03 QUALITY ASSURANCE

A. All produces and execution shall conform to applicable standards and specifications published by the following:

1. The American Society for Testing and Materials (ASTM)
2. American National Standards Institute (ANSI)
3. National Concrete Masonry Institute (NCMA)
4. Structural Clay Products Institute (SPCI)
5. Underwriters Laboratories, Inc. (UL)

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's specifications and other data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements. Include instructions for handling, storage installations and protections.

1.05 JOB CONDITIONS

A. Protection of Work: During erection, cover top of walls with heavy waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.

1.06 COLD WEATHER PROTECTION

A. Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.

B. Remove all masonry determined to be frozen or damaged by freezing conditions.

C. Perform the following construction procedures while the work is progressing:

1. When air temperature is from 40 degrees F (4 degrees C) to 32 Degrees F (0 degrees C), heat sand or mixing water to produce mortar temperatures between 40 degrees F (4 degrees C) and 120 degrees F (49 degrees C)
2. Do not lay masonry when the temperature of the surrounding air is 32 degrees F (0 degrees C) and falling.

D. Perform the following protections for completed masonry and masonry not being worked on:

1. When the mean daily air temperature is from 40 degrees F (4 degrees C) to 32 degrees F (0 degrees C), protect masonry from rain or snow for at least 24 hours by covering with weather resistive membrane.

2. When mean daily air temperature is from 32 degrees F (0 degrees C) to 25 degrees F (-4 degrees C), completely cover masonry with weather-resistive membrane for at least 24 hours.

3. When mean daily air temperature is from 25 degrees F (-4 degrees C) to 20 degrees C) completely cover masonry with insulating blankets or similar protection for at least 24 hours.

4. When mean daily temperature is 20 degrees F (-7 degrees C) and below, maintain masonry temperature above 32 degrees F (0 degrees C) for 24 hours using enclosures and supplementary heat, electric heating blankets, infrared lamps, or other acceptable methods.

PART 2 PRODUCTS

2.01 MORTAR MATERIALS

A. Portland Cement: ASTM C150, Type I. Provide natural color or white cement as required to produce the required mortar color.

B. Hydrated Lime: ASTM C 207, Type S.

C. Aggregates: ASTM C 144, except for joints less that ¼" use aggregate graded with 100% passing the No. 16 sieve.

D. Mortar Color: Supply mortar color with fast-color, mineral pigments to produce color of mortar selected by architect.

E. Water: Clean, free of deleterious materials which would impair strength or bond.

2.02 CAST STONE

A. Ornamental Ball: Ornamental Ball shall be design PC-3/12, 12" diameter without pier cap, S-15 color, SK finish, as manufactured by Dura Art Stone, Conley Georgia or approved equal.

B. Balustrade: Balustrade shall consist of the following components, all of which manufactured by Dura Art Stone of Georgia:

1. Base Rails shall be BR4, *' sections with appropriate end sections. Provide with dowels for anchoring to bridge deck. Fabricated for equal baluster spacing of approximately 8.4".

2. Baluster shall be RB2, round, spaced approximately 8.4" on center. Provide with dowels for anchoring to base rails and gap rails. Provide half balusters each side of intermediate piers and inside of end piers. Balusters shall be 31" high.

3. Piers: Intermediate piers shall be 12" straight, provincial. End piers shall be 7" end, provincial.

4. Cap Rail shall be CR4, 8' sections with appropriate end sections. Fabricate for equal baluster spacing of approximately 8.4".

5. Keystone for arch shall be fabricated according to dimensions on details. Composition, color, and finish shall match other cast stonework. Cast dowels into keystone for anchoring into brick arch.

6. System Design: Balustrade system shall be designed by the manufacturer. Submit drawings showing complete elevation, spacing of balusters, piers, and details for installation. Color for all components shall be S-15 (silica white), finish shall be SK (sharked smooth).

2.03 UNIT PAVERS

A. Solid concrete interlocking paving stones: ASTM C936-82 paving stones shall be Holland Stone as manufactured by Metromont Materials, Spartanburg, South Carolina or approved equal. Paving stones shall be 2 3/8" x 4" x8" with hidden spacer and meet the following physical requirements:

1. Compression Strength- At the time of delivery to the work site, the average compressive strength shall not be less than 8,000 psi with no individual unit strength less than 7,200 psi with testing procedures in accordance with ASTM Standard C-140.

2. Absorption- The average absorption shall not be greater than five percent (5%) with no individual unit absorption greater than seven percent (7%).

3. Proven Field Performance – Satisfying field performance is indicated with units similar in composition and made with the same manufacturing equipment as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least one (1) year.

4. All units shall be manufactured with a separate surfaced hardened mix to ensure consistent texture and concentration of color on the wearing surface.

B. Visual Inspection

1. All units shall be sound and free of defects that would interfere with the proper placing of the unit of impair the strength of performance of the construction. Minor cracks incidental to the usual methods of manufacture, or minor chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.

C. Sampling and Testing

1. The purchaser or his authorized representative shall be accorded facilities to inspect and sample the units at the place of manufacture from lots ready for delivery.

2. Sample and test units in accordance with ASTM Methods C-140.

D. Rejection

1. In case the shipment fails to conform to the specified requirements, the manufacturer may sort it, and new test units shall be selected at random by the purchaser from the retained lot and tested at the expense of the manufacturer. In case the second set of test unit fails to confirm to the specified requirements, the entire lot shall be rejected.

E. Expense of Tests

1. The expense of inspection and testing shall be borne by the purchaser unless otherwise agreed.

F. Sand Laying Course

1. The sand laying course shall be a well graded, clean washed sharp sand with 100% passing 3/8" sieve size and a maximum of 3% passing a No. 200 sieve size. This is

commonly known as manufactured concrete sand, river sand, granite screenings, or similar. DO NOT USE MASON SAND.

2. Bedding sand to conform to ASTM C-33 – The sand-laying course should be the responsibility of the paving stone installer.

PART 3 EXECUTION

3.01 MORTARED BRICK MASONRY

A. Do not lower the freezing point of mortar by use of admixtures or antifreeze agents.

B. Do not use calcium chloride in mortar by use of admixtures or antifreeze agents.

1. Type M: ¼ part lime per part of Portland cement.

2. Type S: Over ¼ up to ½ part lime per part Portland cement.

C. Thickness: Build masonry construction to the full thickness shown, except, build single-width walls (if any) to the actual thickness of the masonry units, using units of nominal thickness shown or specified.

D. Cut masonry units with motor-driven saw designed to cut masonry with clean, sharp, unchipped edges. Cut units as required to provide pattern shown and to fit adjoining work neatly. Use full units without cutting wherever possible.

E. Do not wet concrete masonry units.

F. Frozen Materials and Work: Do not use frozen materials or materials mixed or coated with ice or frost. For masonry, which is specified to be wetted, comply with BIA recommendations. Do not build on frozen work. Remove and replace masonry work damaged by frost or freezing.

G. Lay-up walls plumb and true and courses level accurately spaced and coordinated with other work.

H. Stopping and Resuming Work: Rack back ½-masonry unit length in each course; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if specified to be wetted) and removed loose masonry units and mortar prior to laying fresh masonry.

I. Mortar Bedding and Jointing:

1. Use Type M mortar for masonry below grade and in contact with earth, interior and exterior load bearing walls.

2. Use Type S mortar for exterior above grade and in contact with earth, interior and exterior load bearing walls.

3. Measure and batch materials either by volume or weight, such that the required proportions for mortar can be accurately controlled and maintained. Measurement of sand exclusively by shovel will not be permitted.

4. Mix mortars with the maximum amount of water consistent with workability to provide maximum tensile bond strength within the capacity of the mortar.

5. Mix mortar ingredients for a minimum amount of water consistent with workability to provide maximum tensile bond strength within the capacity of the mortar.

6. Mix mortar ingredients of a minimum of 5-minutes in a mechanical batch mixer. Use water clean and free of deleterious materials, which would impair the work. Do not use

mortar, which has begun to set, or if more than 2 ½ hours has elapsed since initial mixing. Re-temper mortar during 2 ½ hour period as required to restore workability.

7. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells; also, bed webs in mortar in starting course on footings and foundation walls and in all courses of piers, columns, and pilasters, and where adjacent to cells, or cavities to be reinforced or to be filled with concrete or grout.

8. Joints: Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not otherwise indicated, lay walls with 3/8" joints. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials.

9. Remove masonry units disturbed after laying, clean and relay in fresh mortar. Do not pound corners at jambs to fit stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar, and reset in fresh mortar.

10. Formwork for Supporting Reinforced Masonry: Construct formwork to fully support reinforced arch for its entire length. Tolerance for formwork shall be 1/8" true to radius, 1/16" true to level. Leave formwork in place for 14 days after erection.

3.02 CAST STONE

A. Cast stone shall be constructed per manufacturer's recommendations. Drawings and recommendations shall be submitted for review prior to beginning of construction. Joints shall be ½", slightly concave, color to match cast stone. Base rails and bridge shall be drilled and dowelled and grouted securely.

3.03 UNIT PAVERS

A. The paving stone installer/contractor must have related experience in the installation of interlocking concrete paving stones.

B. Base Course Preparation

1. A suitable base must be prepared as detailed in other sections of the project specifications.

2. The base course shall be shaped to grade and cross section with an allowable tolerance of 1.4" (5mm).

3. The compacted base thickness is as follows: Patios, sidewalk, pool decks, and other designated areas for pedestrian walkways shall be at least 4" (100mm) on well drained soils. For other areas such as driveways, receiving wheeled traffic loads, a minimum of 6" (150mm) base thickness is required. A minimum of 8" (200mm) base thickness is required on low volume residential street application. Heavier traffic loads shall require a layer of Geotextile fabric or Geogrids as needed. Reference Tables 1 and 2 of National Concrete Masonry Association's TEK 87-A for minimum physical requirements for Soil Separation Geotextile or Base Reinforcement Geogrids.

C. Construction of the Sand Laying Course

1. The finished base course shall be approved before the placement of the sand-laying course.

2. The uncompacted sand-laying course shall be spread evenly over the area to be paved and then screeded to a level that will produce 1" (25mm) thickness when the paving stones have been placed. Normally, it is good practice to have final elevation of paving stones slightly higher than adjacent curb, gutter, other paving, to allow for any minor settling that may occur within the base. Maximum bedding sand thickness shall not exceed 1 ½".

3. Once screeded and leveled to the desired elevation, this sand laying course shall not be disturbed in any way.

D. Laying of Concrete Paving Stones

1. The paving stones shall be laid in the approved pattern as noted or shown on the drawings. Layering pattern shall be Runner bond.

2. The paving stones shall be laid in such a manner that the desired pattern is maintained and the joints between the stones are as tight as possible. Joints between stones shall not exceed 1/8" (3mm).

3. String lines should be used to hold all pattern lines true.

4. The gaps at the ends of the paver surface be filled with standard edge stone or with stones cut to fit. Cutting shall be accomplished to leave clean edge to the traffic surface using a masonry saw. Whenever possible, no cuts should result with a paver less than 1/3 of original dimension.

5. Paving stones shall be vibrated into the sand-laying course using a vibrator capable of 3,000 to 5,000 pounds of compaction force with the surface clean and joints open. At least two passes with the vibrator should be made across the surface.

6. After vibration, clean masonry type sand containing at least 30% of the 1/8" (3mm) particles shall be spread over the paving stones surface, allowed to dry, and vibrated into joints with additional vibrator passes and brushing so as to completely fill joints. Sweep sand to meet ASTM C-144.

7. Surplus materials shall then be swept from the surface or left on surface during construction time in ensure complete filling of joints during initial use. This sand also may provide surface protection from construction debris.

8. Do not vibrate within three feet of unrestrained edge. All work within three feet of the laying face must be fully compacted edge of the laying face and sand with a waterproof coverage. Sweep off excess sand when the job is complete.

9. Upon completion of work covered in the Section, the Contractor shall cleanup all work areas by removing all debris, surplus material, and equipment from the site.

10. Cleaning- all dirt, grime, and fresh oil and grease shall be removed from the concrete paver surface prior to job being complete. Spray or brush cleaner onto paver surface and then rinse away with clean, potable water. Flammable ingredients or acids are not to be used. Use Addiment Dirt and Grim Remover, or Addiment Efflorescence Remover and General Cleaner, or approved equal.

11. Sealers- No sealer shall be applied until after a thorough cleaning of paver surface. Sealer shall be sprayed or rolled onto clean, dry surface, using Addiment Paver Seal - WB, or approved equal.

3.04 REMOVAL

A. The Removal of Masonry shall be measured by the square yard measured in the field unless otherwise specified by the Engineer.

B. The basis for Payment for Removal shall be per square yard for masonry removed.

C. Removal of Masonry shall include any and all work required for the completion of removing masonry in the specified area on the plans. Excavation, grading, saw cutting, and removal and disposal, will be incidental to Masonry – Removal.

PAY ITEM	**PAY UNIT**
MASONRY - PAVERS	SY
MASONRY – RETAINING WALL	LF
MASONRY – Stormwater Structure	EA
MASONRY- Removal	SY

END OF SECTION 04000

Breezewood Avenue Sidewalk Improvements

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

APPENDIX C

City Standard Forms

NOTICE OF AWARD

Date of Issuance:	[Date]	
Owner:	City of Fayetteville, NC	Owner's Project No.:
Engineer:	[Engineer of Record]	Engineer's Project No.:
Project:	[Project Title]	
Contract Name:	Contract for the Construction of [Project]	
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, and Unit Price Work.

[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 15 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 and modified by Supplementary Conditions

Owner:	**The City of Fayetteville, North Carolina**
By *(signature)*:	_____
Name *(printed)*:	_____
Title:	_____

Contractor: _____

By *(signature)*: _____

Name
(printed): _____

Title: _____

Copy: Engineer

NOTICE TO PROCEED

Owner:	City of Fayetteville, North Carolina	Owner's Project No.:	
Engineer:		Engineer's Project No.:	
Contractor:		Contractor's Project No.:	
Project:			
Contract Name:			
Effective Date of Contract:			

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

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

In accordance with the Agreement: **[Select one of the following two alternatives, insert dates or number of days, and delete the other alternative.]**

The date by which Substantial Completion must be achieved is **[date for Substantial Completion, from Agreement]**, and the date by which readiness for final payment must be achieved is **[date for readiness, from Agreement]**.

[or]

The number of days to achieve Substantial Completion is **[number of days, from Agreement]** 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 **[number of days, from Agreement]** 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:

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

Owner:	City of Fayetteville, North Carolina
By *(signature)*:	
Name *(printed)*:	
Title:	
Date Issued:	

Contractor: _____

By *(signature)*: _____

Name *(printed)*: _____

Copy: Engineer

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

APPLICATION FOR PAYMENT

Prepared By

EJCDC®
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

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Improving Project Delivery

NUCA
We Dig America

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GUIDELINES FOR THE INTENDED USE OF EJCDC C-620, APPLICATION FOR PAYMENT

1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT

The Application for Payment is used to facilitate periodic progress payments to the Contractor for Work completed and for stored materials and equipment (referred to in this document as "Stored Materials").

For additional information regarding the Application for Payment, see EJCDC® C–700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.01, and EJCDC® C–001, Commentary on the 2018 EJCDC Construction Documents (2018).

2.0 APPLICATION FOR PAYMENT OVERVIEW

This document was prepared in Microsoft Excel due to the number of calculations involved in the preparation of the Application for Payment. The application consists of a Summary worksheet, and 3 supporting worksheets: Lump Sum worksheet, Unit Price worksheet, and Stored Materials worksheet.

2.1 *Summary Worksheet* — calculates the amount to be paid to the Contractor at the end of each Application for Payment period. This calculation imports numbers from the supporting worksheets to determine the value of the Work completed and Stored Materials, calculate retainage, and deduct amounts previously paid to determine the amount the Contractor should be paid for the current application period. Application periods are typically one month; however these periods may be extended when Contractor's efforts do not result in the billable completion of Work or storage of materials and equipment during the payment period.

2.2 *Lump Sum Worksheet* — calculates the total value for completed Work for which compensation is paid on a Lump Sum basis. The schedule of values included in this worksheet reflects a breakdown of lump sum Work items to which Contractor and Engineer have agreed, pursuant to Article 2 of the General Conditions. Costs for Stored Materials associated with lump sum items are included on this worksheet to calculate the total value for completed lump sum Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for materials currently stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

2.3 *Unit Price Worksheet* — calculates the total value for completed Work for which compensation is paid on a Unit Price basis. The schedule of values included in this spreadsheet is typically a tabulation of Unit Price items from the Agreement. Costs for Stored Materials associated with unit price items are included in this worksheet to calculate the total value for completed Unit Price Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for Materials Currently Stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

2.4 *Stored Materials Worksheet* — calculates the total value for materials and equipment that have been purchased and are being stored until they are incorporated into the Work. This worksheet adds materials and equipment to the worksheet as they are brought to the site and stored; such Stored Materials are then deducted from the Stored Materials worksheet total as they are incorporated into the Work, providing a running net value for the materials and equipment remaining in storage. The values of Stored Materials must be manually added to the Lump Sum or Unit Price line items. These do not automatically update when changes are made. The amount of materials remaining in storage is eligible for payment but must be tracked separately from Work completed since different retainage rates may apply to Work completed and Stored Materials.

3.0 Instructions for filling out the Payment Application form

3.1 Project-specific information is to be entered in the top portion (header) of the Summary worksheet. This same information will automatically be copied to the other worksheets to complete the headers on all other worksheets.

3.2 Outside of the header, data can be entered in non-shaded cells when the sheet is protected. Cells shaded light blue contain equations that will automatically transfer data from other cells or make calculations to complete the worksheet. Altering any of these cells can result in errors in the Application for Payment. It is recommended that the worksheets be protected at all times unless alterations are deliberately being made to the Application for Payment form other than to enter data. See Paragraph 4.0 below for information on Protection of Worksheets.

3.3 Enter information regarding each item in the Lump Sum and/or Unit Price worksheets. For Lump Sum projects, each item should represent an item in the schedule of values prepared by the Contractor and approved by the Engineer/Owner, breaking down the Lump Sum amount into measurable components. For Unit Price contracts, use numbers from the Agreement as the schedule of values. Specific information on the data to be entered into each column may be seen by clicking on the header description for that column. Similar comments may be seen for cells in the "Totals" row that indicates how the number is calculated and where this number is exported to another part of the spreadsheet. See the Commentary for additional information.

3.4 The equations in the Summary worksheet use numbers imported from both the Lump Sum and Unit Price worksheets. Projects will typically either use the Lump Sum or the Unit Price worksheet, but some projects may use both. If one of the worksheets is not used, it should be hidden and not deleted. If it is deleted, Users will need to correct the equations in the Summary worksheet by unprotecting the worksheet and editing the equations. To hide a worksheet, right click on the worksheet tab at the bottom of the worksheet and select "Hide." To unhide a worksheet, right click on any worksheet tab and select "Unhide," and then select the worksheet to unhide and click "Okay." This same process may be used to hide these Guidelines for Use.

4.0 Protection of Worksheets

4.1 The cells in this Workbook that create the forms or contain equations have been coded to "lock" the cells that should not be altered. It is recommended that the Workbook be Protected (cells locked) at all times unless it is necessary to add or delete rows. Directions for adding and deleting rows are provided in the next section. Passwords can be used to lock the Protect / Unprotect settings on spreadsheets, however the worksheets in this workbook do not require a password.

4.2 To unprotect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Unprotect Sheet." To protect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Protect Sheet." This will open a dialog box in which the User is allowed to select protection options. It is recommended that only the top two checkboxes for "Select Locked Cells" and "Select Unlocked Cells" be checked. This will reset the protection for the Worksheet.

5.0 Adding and Deleting Rows

5.1 A limited number of blank rows are provided in the Lump Sum, Unit Price, and Stored Material worksheets. Additional rows may be added to these worksheets by the User. The first step in this process is to unprotect the worksheet as previously discussed. After the sheet is unprotected, move with caution to prevent inadvertently deleting any cells that contain equations. To insert a row, right click in the row heading at the left of the spreadsheet and select "Insert." A new row will be inserted at the location where the cursor was placed in the row heading. If more than one new row is desired, left click and drag the cursor to include the desired number of rows, right click in the selected row headings and then select "Insert." It is important that the line immediately above the "Totals" row not be included in the rows selected. Doing so will require that equations in the "Totals" row be adjusted. When rows are inserted, Excel automatically adjusts the equations to include the new rows, unless the row directly above the "Totals" row is also selected.

5.2 After new rows are inserted, it is important to copy a line from one of the original rows so correct formatting and equations are copied into each new row. To do this, select the row to be copied by clicking the cell in Column A and dragging the cursor to the last column in the table. Then select "Copy" from the menu or type CTRL+C to copy the cells. Excel will show that this row has been copied by showing a moving dashed line around the cells that are to be copied. Then select the new rows into which the information is to be copied as before and select Paste from the menu or type CTRL+V.

5.3 To delete an unused row, right click in the row heading on the left of the spreadsheet for the row to be deleted and select "Delete." The selected row will be deleted. If more than one row is to be deleted, left click and drag the cursor to the desired number of rows to be deleted and then right click to open the menu and select "Delete." Unlike the admonition on adding new rows, it is okay to delete the row just above the "Totals" row.

5.4 After rows have been added or deleted, it is important reset the worksheet protection.

6.0 Saving Files

This file is provided as a Microsoft ® Excel Open XML workbook template (.xltx) to prevent this file from being inadvertently changed. When an application for payment is created for a specific project it should be saved as an Excel workbook (.xlxs) file. To do this, select Save As (F12), type in a new file name and select Excel Workbook (.xlxs) from the drop down Save As Type menu.

7.0 License Agreement

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

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 Date:**	
Application Period:	**From**	**to**	

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

Contractor's Certification

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

Contractor: _____

Signature: _____ **Date:** _____

Recommended by Engineer		**Approved by Owner**	
By:		**By:**	
Title:		**Title:**	
Date:		**Date:**	
Approved by Funding Agency			
By:		**By:**	
Title:		**Title:**	
Date:		**Date:**	

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Progress Estimate - Unit Price Work

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:** _____

A	B	C	D	E	F	G	H	I	J	K	L
		Contract Information				Work Completed					
Bid Item No.	Description	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) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
Original Contract											
					-		-		-		-
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				Original Contract Totals	$ -		$ -	$ -	$ -		$ -

EJCDC C-620 Contractor's Application for Payment
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Progress Estimate - Unit Price Work

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:** _____

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

EJCDC C-620 Contractor's Application for Payment
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CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	City of Fayetteville, North Carolina	Owner's Project No.:
Engineer:		Engineer's Project No.:
Contractor:		Contractor's Project No.:
Project:		
Contract Name:		

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: _____

NOTICE OF ACCEPTABILITY OF WORK

Owner:	City of Fayetteville, North Carolina	Owner's Project No.:
Engineer:		Engineer's Project No.:
Contractor:		Contractor's Project No.:
Project:		
Contract Name:		
Notice Date:	Effective Date of the Construction Contract:	

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

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

Engineer

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

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

Owner:	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:	_____	_____

CITY OF FAYETTEVILLE
CONTRACT CHANGE ORDER

City of Fayetteville
Purchasing Department
433 Hay Street
Fayetteville, NC 28301
(910) 433-1942/4332
(910) 483-1680 (Fax)

Project Name: Click here to enter text.

Contractor: Click here to enter text.

Address:

Effective Date: Click here to enter text.	**Previous Total:** Click here to enter text.
Contract No.: Click here to enter text.	**Total Change:** Click here to enter text.
Change Order No.: Click here to enter text.	**Revised Total:** Click here to enter text.
Account No.: Click here to enter text.	**Time Change:** Click here to enter text.

This change order is being written to:

Except as provided herein, all terms and conditions of the contract referenced above, as heretofore changed remains unchanged and in full force and effect.

Contractor Acceptance:	**City Acceptance:**
I certify that my bonding company will be notified forth-with that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety. **By:**_____ **(Signature/Date)** **Title:**_____ **Date:**_____	**This instrument has been pre-audited in the manner required by the Local Government and Budget Fiscal Control Act.** _____ **Chief Financial Officer (Signature/Date)** _____ **Contracting Officer (Signature/Date)** _____ **Authorized City Representative (Signature/Date)**

FIELD ORDER NO.: [Number of Field Order]

Owner:	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: _____

CITY OF FAYETTEVILLE

SDBE COMPLIANCE PROVISIONS
AFFIDAVIT E

SDBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime
Contractor:
Address and Phone:_____
Project Name: _____
Pay Application #_____Period: _____

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

Firm Name and Address	*SDBE Category	Payment	Owner Use Only

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian-Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

Date:_____ Approved/Certified By:_____
(Name)

_____
(Title)

_____
(Signature)

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

STANDARD FORM FOR PAYMENT REQUESTS

Company Name: Project Name:

Company Address: Project Number:

Company Phone:

Pay Request#

PART A

TOTAL		SCHEDULED	UNIT	SCHEDULED	PREVIOUS	CURRENT
!TEM# VALUE	DESCRIPTION	QUANTITY	PRICE	VALUE	QTY	QTY
1.						
2.						
3.						
4.						
			SUB-TO'I AL		SUB-TOTAL	

PARTB

TOTAL		SCHEDULED	UNIT	SCHEDULED	PREVIOUS	CURRENT
ITEM# VALUE	DESCRIPTION	QUANT!TY	PRICE	VALUE	QTY	QTY
1.						
2.						
3.						
4.						
			SUB-TOTAL		SUB-TOTAL	

TOTAL EARNINGS $

CONTRACT SUMMARY

Original Contract Value	$
Change Orders Approved	$
Current Contract Value	$
Total Earnings	$
Less Retainage	$
Less Previous Payments	$
Due this estimate	$
Balance to finish (+ retainage)	$

Sign and
Attach to Bid

LIST OF SUBCONTRACTORS

The Prime Contractor states that his Bid is based on quantities received from the following Subcontractors for the various categories of work listed which may exceed 5% of the Contract work; the Prime Contractor agrees that if he is the successful Bidder and if the listed Subcontractors are approved by the Owner's Representative, he shall contract with the approved listed Subcontractors for the performance of this work. The total amount of subcontracted work cannot exceed 49% of the Contract Amount.

Subcontractors Name	Type of Work	% of Contract Amount

THIS FORM SHALL BE SUBMITTED WITH PROPOSAL

_____
COMPANY

_____
BIDDER'S SIGNATURE

_____
TITLE

RELEASE OF CLAIMS

Contract/Purchase Order Number:_____

Title: _____

Project Number: _____

To the best of my knowledge and belief, I certify that all items, units, quantities, prices of work and materials and NC Sales taxes shown on the attached final invoice are correct; that all work has been performed and materials supplied in accordance with the terms and conditions of the above stated contract, including any and all change orders, between the City of Fayetteville, and (Contractor)_____. I further certify that all subcontracting obligations have been met. Below is a true and correct statement of the contract amount up to and including the last day of the period covered by the attached final invoice, and that no part of the "total amount clue" has been received.

(a) Total Contract Cost (Including Change Orders)	$_____
(b) Total Amount Previously Paid	$_____
(c) Total Amount Due (Including retainage)	$_____

In consideration of the above stated sum to be paid by the City of Fayetteville for the noted contract, the undersigned contractor does release and discharge the City of Fayetteville, its officers, agents and employees, of and from all liabilities, obligations and claims whatsoever in law and equity arising out of or by virtue of said contract, except specified claims in stated amounts, or in estimated amounts when the amounts are not susceptible of exact statement by the contractor, as follows:

_____

_____

_____

_____

_____

IN WITNESS WHEREOF, this release has been executed this,_____day of,_____ 2023
(Imprint Corporate Seal below this line)

(CONTRACTOR) BY:_____

TITLE:_____

ATTEST:

_____
(Secretary)