



Guilford County's General Terms and Conditions

1. This bid package serves as official notice that GUILFORD COUNTY is soliciting and will receive bids for the item(s) and/or service(s) stated on the event cover page and outlined in the Bid specifications. Bids shall be submitted electronically via the Purchasing Department's Strategic Sourcing website: www.co.guilford.nc.us/sourcing by the event close date and time specified.
2. All addenda to this bid package will be issued electronically. No oral changes by anyone shall affect this bid package.
3. The official bid price, quote, response for RFP, RFQ, or otherwise instructed; shall be signed by a duly authorized person acknowledging full understanding of the bid information and all addenda. The signature shall be witnessed and the Corporate Seal affixed if a corporation. The exact legal name of the corporation or other entity shall be provided
4. Price quotes shall be net, to include all discounts and delivery charges to GUILFORD COUNTY. In cases of difference between unit price and total price, unit price shall prevail unless otherwise noted.
5. Bid event submittal schedules are fixed and will not be amended unless Guilford County determines the County has given cause to extend the event.
6. State and local sales taxes are not to be included in quotes, but they are to be added later to all invoices shown as a separate line item for payment. Federal (sales-excise) taxes, where applicable, are to be included in quotes as they are a part of the purchase price.
7. All Formal Bids will be publicly opened and recorded at the date and time specified by and in the Purchasing Department. It is GUILFORD COUNTY's policy to announce the award electronically. All other information, except that specifically noted by the Supplier as being of a Confidential nature, becomes public record in accordance with GS 132 and other applicable North Carolina laws. All interested parties are invited to attend any Formal Bid opening.
8. GUILFORD COUNTY will have a period of thirty (30) days, unless otherwise stated, after opening to analyze and award to lowest responsive and responsible bidder based on service, quality, delivery date, performance data and price. The successful supplier shall promptly enter into a contract acceptable to Guilford County.
9. All Events/Bids in the Formal Range require the final approval of the GUILFORD COUNTY Board of Commissioners who normally meet in open session two times each month, the first and third Thursday at 5:30 PM. Everyone is invited to attend those meetings.
10. A Bid Deposit may be required. If this is the case, it will be clearly stated in the Event specifications for each package. If a bid deposit is required, it should be no less than 5% of the total bid in cash, cashier's check, certified check, or a Bid Bond. The checks shall be drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation; and, the bond shall be a corporate surety licensed under the State of North Carolina. The obligee in either check or bond shall be Guilford County.
11. If Bid Deposit Checks are received, they will be returned to all suppliers when the successful supplier has been selected and the contract awarded by Guilford County. The successful deposit check will be returned when the required contract has been executed.
12. In addition to the bid deposit or bid bond, some supplier's may require a separate

Performance Bond and/or laborers-materials men's bond as provided by law in the amount of the contract by the awarded supplier(s). If this is required, it will be clearly stated in the bid specifications. In place of a bond; cash, cashiers check, certified check or government securities shall be acceptable.

13. Guilford County reserves the right to reject any or all bids if in the best interest of the County.
14. In case of default by the Supplier, Guilford County shall retain the Bid Deposit or call upon the Bid Bond surety unless otherwise provided by Law.
15. Guilford County's policy is normally Net 30 days upon completion and acceptance. In the case of some longer term projects, Guilford County may choose to release partial payments to the supplier each month based on 90% of the estimated value of the work completed. The final payment will be released within thirty (30) days or less after the satisfactory completion of all work, its acceptance by Guilford County and the settlement of all other claims and accounts.
16. In the case of Continuing Service Type Contracts, payment will be made monthly or as otherwise agreed upon.
17. It is Guilford County's Purchasing Policy to conduct all purchasing within the North Carolina Laws and Guilford County Purchasing Policy, to provide each supplier/contractor an equal opportunity to participate, and to award on a best value basis. In order to accomplish our policy, we intend to make every supplier/contractor aware of each purchasing opportunity. Contracts shall be awarded to the lowest responsive and responsible bidder(s) based on quality, performance and the time specified in the proposal for the performance of the contract. Suppliers/contractors should register online at www.co.guilford.nc.us/sourcing.
18. A Material Safety Data Sheet (MSDS) shall be furnished to Guilford County for all products purchased that contain hazardous material and/or components.
19. Any supplier/contractor performing work on GUILFORD COUNTY property is required to have adequate Liability and Workers Compensation Insurance that will fully protect GUILFORD COUNTY from any damages to property and/or persons caused by the supplier/contractor.
20. The successful supplier shall be required (and is responsible) to take Affirmative Action to employ Disabled Veterans and Veterans of the Viet Nam era, including listing vacancies with the North Carolina Employment Security Commission, under 42 US Code 4212 and applicable regulations thereafter.

The successful supplier shall be required to employ in the workforce only those laborers whose employment is consistent with all applicable State and Federal Laws. The successful supplier, and each subcontractor, shall prior to performance of the work receive clear written evidence from each laborer that said laborer may lawfully be employed. Said evidence shall immediately be submitted to the County. Failure of said Supplier or Subcontractor to receive, retain and/or provide to the County such evidence shall constitute a material breach of the Contract with the County.

21. The Supplier shall take Affirmative Action in complying with all Federal and State requirements concerning fair employment without regard to discrimination by reason of race, color, religion, sex, national origin or physical handicap.
22. The successful Supplier is responsible for compliance with all applicable Local, State and Federal Laws, including all state and local permits, licenses and fees.

23. If the Supplier/Contractor should undergo merger, acquisition or any change in their ownership or their name for any reason, the provider shall immediately notify Guilford County in writing of these changes and provide Guilford County with legal documentation supporting these changes, such as an Assumption Agreement, Bill of Sale, Articles of Incorporation, Articles of Amendment, sales contract, merger documents, etc. Further, the Supplier/Contractor shall submit the name and address of their registered agent for Service of Process and/or all notices required under the contract(s). This contract shall not be assumed or otherwise transferred to another party by the Supplier/Contractor without the express written consent of Guilford County, which said consent will be evidenced by acceptance memo, letter or e-mail from the Guilford County Manager, or designee, to the original Supplier/Contractor under the contract and the assuming Supplier/Contractor.
24. Provider shall operate as an independent contractor for all purposes. The Parties agree to each be solely responsible for their own acts or omissions in the performance of each of their individual duties hereunder, and shall be financially and legally responsible for all liabilities, costs, damages, expenses and attorney fees resulting from, or attributable to any and all of their individual acts or omissions to the extent allowable by law.
25. This contract is governed by the Laws of the State of North Carolina.

Project Manual
Request for Proposal

Event # 605

HAGAN-STONE PARK
5920 HAGAN-STONE PARK ROAD

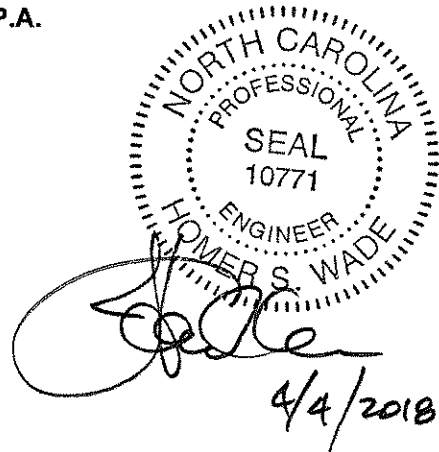
HAGAN STONE PARK PAVING REPAIR PHASE 2

for:

County of Guilford , North Carolina
Facilities, Property Management and Parks Department
Greensboro, NC

April 4, 2018

Borum, Wade & Associates, P.A.
621 Eugene Court
Greensboro, NC 27401
336-275-0471



Prepared for:

GUILFORD COUNTY FACILITIES AND PARKS
Terri Hall, Administrative Officer
Old County Courthouse
301 W. Market Street, Suite 400
Greensboro, NC 27401
336.641.6532



Project Manual
Request for Proposal
Event # 605
Hagan-Stone Park
 5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repairs Phase 2

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5920 Hagan-Stone Park Road
Hagan Stone Park Pavement Repairs Phase 2

DOCUMENT 00100 – INVITATION TO BID

Guilford County Facilities is seeks Proposals from individuals or firms interested in providing services for the for the removal and replacement of existing pavement and subgrade in Cedar Road. The contractor is to provide all required labor, tools, materials and equipment to repair the pavement at Cedar Road. The project limits will be repair of Cedar Road from the interstion of Dogwood drive to the intersection of Pine Road. An alternate will be bid for the subgrade preparation and paving of a portion of Dogwood Drive from Cedar Road toward the campground. Areas to be repaired are indicated on the plans. One lane of road is to remain open at all time, the park will not be closed to visitors. Provide traffic control as required to allow safe access to and from the park during normal business hours. The successful contractor shall submit a phasing plan that accommodates daily and weekend use of the Park Road once he starts on site construction.

Respondents must be licensed to perform General Construction work in North Carolina. Participation of minority-owned and woman-owned businesses is encouraged but is not an evaluation factor. It is prohibited to pay any fee, commission, percentage, or brokerage fee to any person or firm contingent upon or resulting from award of a contract for this project.

NON-Mandatory prebid walk-through/site access for Contractors of the 5920 Hagan-Stone Park Road will be conducted by Guilford County Facilities and Parks on *April 12, 2018 @ 10:00 AM (est)*.

Bids Responses must be received by the event close date and time of April 19, 2018 @ 3:00 PM (est).

Bids received after the bid date and time may not be considered. Faxed bids will not be accepted.

Submitt Bids for Hagan-Stone Park Pavement Repair Phase 2 in a sealed envelope containing one (1) original Document 00300-FORM OF PROPOSAL, with all required attachments.

Submit bids in the manner designated on the form and required by the Project Manual to the address listed below:

**Guilford County Facilities Department
Attn: Terri Hall, Administrative Officer
Old County Courthouse, 301 W. Market Street, Suite 400
Greensboro, North Carolina 27401**

The bid envelope(s) shall clearly indicate that the enclosed bid is for:

**PROPOSAL FOR EVENT # 605
Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2**

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan Stone Park Pavement Repairs Phase 2

DOCUMENT 00100 – INVITATION TO BID

Submissions will not be retained or returned. No bid may be withdrawn for a period of 60 days after the bid opening date.

Bids must be accompanied by the following documents in duplicate:

1. Minority Business Participation Requirements and Affidavits
2. Document 00335 - E-Verify Affidavit
3. Document 00480 - Non-Collusion Affidavit.
4. Document 00486 - Consent of Surety
5. Document 00490 - Contractor's Qualification Statement (AIA A305)
6. Bid bond, cashier's check or certified check, payable to Guilford County in the amount of not less than 5% of the bid.
7. Any other bid forms required by the Document 00200 INSTRUCTIONS TO BIDDERS.

During the Bidding Period, questions will be taken until 3:00 P.M., 7 (seven) days prior to bid due date.

Any and all DOCUMENT CLARIFICATION REQUEST concerning the bid documents are to be emailed to the office of the Engineer, at mwilliams@borum-wade.com to the attention of: Matt Williams

Telephone inquiries concerning the bid documents will not be responded to by the Engineer or Guilford County. Responses will be distributed to all bidders by Addendum as required.

Bidding documents, drawings and specifications are available for viewing at the Guilford County E-Procurement website. Contact Purchasing Department at 336-641-3314 with website questions. Guilford County registered vendors will receive email notifications of all revisions to the drawings and specifications issued by addenda through E-Procurement. All addenda will be posted to the E-Procurement website.

END OF DOCUMENT 00100

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Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00200 – INSTRUCTIONS TO BIDDERS

PART 1 - PRE-BID REQUIREMENTS

1.1. INTENT

- A The Engineer has made every effort to set forth in the Bid Documents the complete scope of the Work. Nevertheless, minor omissions and discrepancies shall not excuse the Bidder from providing a price to totally complete the project in accordance with the intent of these documents.
 - 1 Bring any conflicts, omissions, or discrepancies to the attention of the Engineer prior to submission of an executed bid form.
 - 2 After execution of the Contract, no extra charges will be allowed for items of work where such are concluded to conform to normal construction practices and methods.

1.2 CONFIRMATION

- A Inquiries: Notify the Engineer if the meaning of the documents is in doubt, or if discrepancies or omissions are noted. An Addendum clarifying the issue in question will be sent to all Bidders.
 - 1 All inquiries are to be submitted on Document Clarification Request Form located in Section 00215. Submit all inquiries to the Engineer.
 - 2 If any bidder is in doubt as to the true meaning of any part of the Documents, he shall request an interpretation from the Engineer. Requests shall be made in time to allow the Engineer to evaluate the request and to issue a formal clarification no later than seven (7) working days prior to scheduled bid date.
 - 3 Whenever there are discrepancies between Drawings, or between the Drawings and Specifications, or conflicts within the Specifications, and such discrepancy is not called to the Engineer's attention in time to permit clarification by Addendum, the bidder shall base his bid upon providing the better quality or greater quality of work or material called for, shall submit a written statement with his proposal noting such discrepancies, and shall so furnish and install such better quality or greater quantity unless otherwise ordered in writing.
- B Site Inspection: Visit the location where the Work is to be performed, become thoroughly familiar with all conditions affecting the work, and compare conditions with the Bid Documents. No consideration will be granted for any misunderstanding of existing conditions resulting from failure to visit the site.

1.3 CONTRACT FORMS

- A Read carefully and become familiar with the forms identified in the List of Contract Forms.
 - 1 Should the Owner elect to enter into an agreement to execute the Work, the listed forms shall be used.
 - 2 Applicable forms are bound into the Project Manual.

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DOCUMENT 00200 – INSTRUCTIONS TO BIDDERS

1.4 LAWS AND REGULATIONS

- A All applicable federal, state, and local laws and ordinances, as well as the rules and regulations of the jurisdiction where the work is to be executed, shall apply to the Contract throughout. These will be deemed to be included in the Contract to the same extent as though herein written, including, but not limited to the following:
- 1 Rules and regulations issued by the Health Hazard Control Unit of the NC Dept of Health & Human Services, Division of Public Health.
 - 2 Rules and Regulations issued by the NC Department of Labor, Occupational safety and Health Division.
 - 3 Rules and regulations issued by the N.C. Department of Environmental Quality.
 - 4 Rules and regulations issued by the Guilford County Planning & Development Department, Permitting and Inspections and Soils and Erosion Control Sections.

1.5 COMPLETION TIME

- A Evaluation of each Bid will include serious consideration of the time of completion. The Bidder shall be prepared to execute the Contract to accommodate the Owner's commitments and shall govern himself accordingly in completing the Bid Form. This project is scheduled to be completed in 60 calendar days from Notice to Proceed.

1.6 SUBSTITUTIONS

- A It shall not be incumbent upon the Owner and/or the Engineer to consider any items submitted for substitution but only those, in their judgment, meriting consideration. All requests for substitution by Sub-contractors or Material Suppliers will be considered only when made and approved through a qualified Bidder and when submitted with sufficient information to evaluate the product/materials being considered. All requests shall comply with the following:
1. The equipment and/or product submitted must equal in all ways to the specified equipment or product. The Engineer will make the final decision in conjunction with Guilford County.
 2. The proposer of the substitution of equipment or product shall identify any delay to the schedule for work, inspections, or tests which might result from the use of the proposed substitution."

PART 2 - BID PROCEDURES

2.1 PREPARATION OF BIDS

- A The Bid shall be prepared using the Bid Form template in the specifications by the Engineer; no other forms will be considered.
- 1 Bids shall be submitted as directed by the INVITATION TO BID.
 - 2 Bids shall include the Bidder's legal name, fully written.
 - 3 Oral, telegraphic, or other modifications will not be considered.
- B. Bid Forms shall be sent to the Owner as indicated in the Invitation to Bid Letter.

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DOCUMENT 00200 – INSTRUCTIONS TO BIDDERS

- C. On the Schedule of Values the Contractor is required to fill out Option “A” or Option “B”. Contractor has the option to bid Pavement Repair by Remove and Replacement (Option A) or Road Repair using Full Depth Reclamation (Option “B”). Each option must include the Base Bid & Alternate. Bids with only one phase completed will be rejected as incomplete.

2.2 OWNER’S RESPONSE TO BIDS

- A Submitted Bid Forms will NOT be opened and read publicly on the date indicated in the Invitation to Bid Letter. Notice of award will be made by the Owner after consideration of Bids received. The notice to proceed will not be issued until on or after September 10, 2014.
- C The Owner reserves the right to respond to the Bids as follows:
- 1 Reject any or all Bids without explanation.
 - 2 Waive non-material technicalities.
 - 3 Advertise for new bids.
 - 4 Proceed to do the work otherwise.
- D The following Bids may be rejected as being non-responsive:
- 1 Bids that fail to meet the requirements of these instructions.
 - 2 Bids that are incomplete, conditional, or obscure.
 - 3 Bids that contain additions not called for, erasures, alterations, or other irregularities.
 - 4 Bids that contain abnormally high or abnormally low prices for any class or item of work.

PART 3 - CONTRACT EXECUTION

3.1 POST-BID SUBMITTALS

- A After notification of selection as apparent lowest responsive, responsible bidder of a Contract, the Bidder shall submit the following to the Owner in writing.
- 1 A designation of the work to be performed with the Bidder's own forces.
 - 2 Names of the manufacturers, products and the suppliers of principal items or systems of materials and equipment proposed for the Work.
 - 3 Names of persons or entities proposed for the execution of principal portions of the Work.
- B The Engineer will notify the Bidder in writing if either the Owner or Engineer has reasonable objection to a Subcontractor proposed by the Bidder. If the Owner or Engineer has reasonable objection to a proposed Subcontractor, the Bidder may, at the Bidder's option:
- 1 Withdraw the bid.
 - 2 Submit an acceptable substitute subcontractor with an adjustment in the Bid to cover the difference in cost. NOTE: Withdrawal of bid may lead to a forfeiture of Bid Bond where appropriate.
- C The Owner may accept the adjusted Bid Price or disqualify the Bidder. Persons and entities accepted by the Owner and Engineer must be used on the work for which they were proposed and shall not be changed except with the written consent of the Owner and Engineer.

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DOCUMENT 00200 – INSTRUCTIONS TO BIDDERS

3.2 INSURANCE AND BONDS

- A Insurance: Upon receipt of a written “Letter of Intent”, the Bidder shall furnish to the Owner a certificate of insurance in compliance with the requirements of the following:
 - 1 General Conditions of the Contract.
 - 2 Supplementary Conditions of the Contract.

- B Performance and Payment Bonds: Upon receipt of a Construction Contract, the Bidder shall furnish to the Owner a Performance Bond and Labor & Materials Payment Bond, both for the full amount of the Contract.
 - 1 The bonds shall be provided by a properly qualified surety company.
 - 2 The cost of the Performance and Payment Bonds shall be indicated on the Bid Form and shall be included in the total proposed Contract Amount.

3.3 LABOR FORCE

- A Non-Discrimination: The Bidder is advised that the Owner will not tolerate any discrimination on the basis of age, gender, race, national origin, or sexual orientation by the Bidder or Subcontractors.

END OF BID INSTRUCTIONS

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DOCUMENT 00215 – DOCUMENT CLARIFICATION REQUEST (DCR)

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Specified in This Section:
 - 1. This Section specifies administrative and procedural requirements for disposition of Document Clarification Request (DCR's) during the Bidding Phase.

1.2 SUBMITTALS

- A. Submit each request (DCR) on the form included in this Section.
- B. Provide only one request on each form.
- C. Email DCR form to mwilliams@borum-wade.com

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 CONDITIONS

- A. Submit requests to the Engineer as soon as possible.
- B. DCR's will be received up to (7) calendar days prior to the Bid date. DCR's received after that date will not be reviewed.

3.2 ENGINEERS ACTION:

- A. The Engineer will review the information requested.
- B. The Engineer's response will be in the space provided on the DCR form included in this Section.

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DOCUMENT 00215 – DOCUMENT CLARIFICATION REQUEST (DCR)

Contractor DCR #:

Date:

Submitted By:

Attention: **Matt Williams, P.E.**
 Borum, Wade and Associates, P.A.
 621 Eugene Court, Suite 100
 Greensboro, NC 27401

Subject:

Specification Reference:

Drawing Sheet Number/Detail Reference:

INFORMATION REQUESTED

Signed: _____

RESPONSE

By:

Date:

- ☐ See Drawings/Specifications:
- ☐ See Addenda to be issued:
- ☐ Other
- ☐ See attachments

END OF DOCUMENT 00215

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Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00300 – FORM OF PROPOSAL

Attention: Terri Hall, Administrative Officer – Guilford County Facilities and Parks

Event Number: _____
Bidder: _____
Address: _____
Telephone #: _____
Bid Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder, by signing below, in consideration of the mutual promises, contained herein and other good and valuable consideration, the receipt and sufficiency hereby acknowledged, agrees to the terms and conditions set out herein.

Bidder agrees that upon acceptance the Guilford County, this Bid Package shall be deemed as a binding contract subject to the terms set out herein. It is acknowledged that the terms in the Section 00500-1 *et seq.*, entitled Contract, shall be binding should any issues arise over possibly inconsistent or conflicting language. This Contract shall be in full force and effect upon execution by all parties for the terms as set forth in Section 4, of the Contract found in Section 00500.

Bidder further agree to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the:

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in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the

GUILFORD COUNTY FACILITIES AND PARKS DEPARTMENT and Borum, Wade & Associates, P.A.

with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

Hagan-Stone Park
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DOCUMENT 00300 – FORM OF PROPOSAL

SINGLE PRIME CONTRACT:

BASE BID:

Dollars(\$)

GENERAL CONTRACTOR:

ELECTRICAL SUBCONTRACTOR:

Lic

Lic

MECHANICAL SUBCONTRACTOR:

Lic

Lic

GUILFORD COUNTY:

ATTEST:

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

SINGLE PRIME CONTRACT:

ALTERNATE BID:

Dollars(\$)

GENERAL CONTRACTOR:

Lic

GUILFORD COUNTY:

ATTEST:

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DOCUMENT 00300 – FORM OF PROPOSAL

PROJECT DURATION

Bid Project Duration is 60 Calendar days from notice to proceed).

ATTACHMENTS TO BE INCLUDED WITH PROPOSAL

1. Minority Business Participation Requirements and Affidavits

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit A) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of Affidavit (A) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit D is not necessary;

*** OR ***

If less than the 10% goal, Affidavit (D) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit A **or** Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

2. Document 00335 - E-Verify Affidavit

3. Document 00480 - Non-Collusion Affidavit.

4. Document 00486 - Consent of Surety

5. Document 00490 –Contractor’s Qualification Statement (AIA A305)

6. Bid bond, cashier’s check or certified check, payable to Guilford County in the amount of not less than 5% of the bid.

7. Any other bid forms required by the Document 00200 INSTRUCTIONS TO BIDDERS.

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00300 – FORM OF PROPOSAL

PROPOSAL SIGNATURE PAGE

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of _____

(Name of firm or corporation making bid)

WITNESS:

By: _____
Signature

(Proprietorship or Partnership)

Name: _____
Print or type

Title _____
(Owner/Partner/Pres./V.Pres)

Address _____

ATTEST:

By: _____

License No. _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

Federal I.D. No. _____

Email Address: _____

(AFFIX CORPORATE SEAL)

Acknowledge of non-mandatory prebid walk-through/site access attendance:

General Contractor (Y) (N)

Acknowledge attachments included with proposal:

Attachment No. 1 A____, B____, C____, D____ (check all that apply)

Attachment No. 2____, Attachment No. 3____, Attachment No. 4____, Attachment No. 5____,
Attachment No. 6____, Attachment No. 7 (List Other) _____

Acknowledge addendum received and used in computing bid:

Addendum No. 1 _____ Addendum No. 3 _____ Addendum No. 5 _____ Addendum No. 6 _____
Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____ Addendum No. 7 _____

END OF DOCUMENT 00100

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00311 – SCHEDULE OF VALUES

CONTRACTOR MUST FILL OPTION "A" OR OPTION "B" AND ALTERNATE FOR OPTION "A" OR OPTION "B".
BIDS WITHOUT THE THE BASE BID AND ALTERNATE WILL BE REJECTED.

OPTION A (Base Bid)- PAVEMENT REPAIR BY REMOVE AND REPLACE

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	UNSUITABLE SOIL REMOVE OFFSITE	
	120 CY @\$ _____/CY =	\$ _____
	REMOVE DEMO ASPHALT OFFSITE	\$ _____
<u>DIVISION 31</u>		
EARTHWORK METHODS		
SECTION 312333	TRENCHING AND BACKFILLING	
	REPLACE UNSUITABLE SOILS FROM OFFSITE	
	120 CY @\$ _____/CY =	\$ _____
	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE	
	5,788 SY @\$ _____/SY =	\$ _____
	REMOVE, EXCESS SOIL FROM SITE 640 CY @ \$ _____/CY=	\$ _____
<u>DIVISION 32</u>		
EXTERIOR IMPROVEMENTS		
SECTION 321123	AGGREGATE BASE COURSE	
	990 TN @ @\$ _____/TN =	\$ _____
SECTION 321216	ASPHALT PAVING	
	5,788 SY@ \$ _____/SY=	\$ _____
SECTION 321313	CONCRETE PAVING 260 SF @ _____/SF=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
	TOTAL	\$ _____

OPTION B (Base Bid)- ROAD REPAIR USING FULL DEPTH RECLAMATION

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 32</u>		
EXTERIOR IMPROVEMENTS		
SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE) 5,788 SY @\$_____/SY =	\$ _____
SECTION 321216	ASPHALT PAVING 5,788 SY @\$_____/SY =	\$ _____
SECTION 321313	CONCRETE PAVING 260 SF @\$_____/SF=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
TOTAL		\$ _____

CONTRACTOR MUST FILL OPTION "A" OR OPTION "B".

OPTION A (Alternate Bid)– PAVEMENT REPAIR BY REMOVE AND REPLACE

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	UNSUITABLE SOIL REMOVE OFFSITE	
	100 CY @\$ _____/CY =	\$ _____
	REMOVE EX. STORM PIPE	
	2 EA @\$ _____/EA =	\$ _____
<u>DIVISION 31</u>	EARTHWORK METHODS	
SECTION 312333	TRENCHING AND BACKFILLING	
	REPLACE UNSUITABLE SOILS FROM OFFSITE	
	100 CY @\$ _____/CY =	\$ _____
	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE	
	1,946 SY @\$ _____/SY =	\$ _____
	REMOVE, EXCESS SOIL FROM SITE	
	230 CY @ \$ _____/CY=	\$ _____
	GRADE SIDE DITCH/ W MATTING	
	240 LF @ \$ _____/LF=	\$ _____
	EROSION CONTROL RIP RAP	
	5 TN @ \$ _____/TN=	\$ _____
<u>DIVISION 32</u>	EXTERIOR IMPROVEMENTS	
SECTION 321123	AGGREGATE BASE COURSE	
	480 TN @ @\$ _____/TN =	\$ _____
SECTION 321216	ASPHALT PAVING	
	1,946 SY@ \$ _____/SY=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
SECTION 329200	SEEDING LUMP SUM	\$ _____
<u>DIVISION 33</u>	UTILITIES	
SECTION 330539	30" RCP	30 LF @ \$ _____/LF=
		\$ _____
<u>TESTING</u>		
CONTRACTOR REQUIRED TESTING		\$ _____
TOTAL		\$ _____

OPTION B (Alternate Bid) - ROAD REPAIR USING FULL DEPTH RECLAMATION

Division	Description	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION REMOVE EX. STORM PIPE 2 EA @\$ _____/EA =	\$ _____
<u>DIVISION 31</u>		
EARTHWORK METHODS		
SECTION 312333	GRADE SIDE DITCH/ W MATTING 240 LF @ \$ _____/LF=	\$ _____
	EROSION CONTROL RIP RAP 5 TN @ \$ _____/TN=	\$ _____
<u>DIVISION 32</u>		
SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE) 1,946 SY @\$ _____/SY =	\$ _____
SECTION 321216	ASPHALT PAVING 1,946 SY @\$ _____/SY =	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
SECTION 329219	SEEDING LUMP SUM	\$ _____
<u>DIVISION 33</u>		
UTILITIES		
SECTION 330539	30" RCP 30 LF @ \$ _____/LF=	\$ _____
<u>TESTING</u>		
CONTRACTOR REQUIRED TESTING		\$ _____
TOTAL		\$ _____

END OF SECTION 00311

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00330 – MBE GUIDELINES AND AFFIDAVITS

COVER PAGE INCLUSIVE OF

1. REQUIREMENTS PERTAINING TO THE PARTICIPATION OF MINORITY BUSINESSES IN BUILDING (CONSTRUCTION – REPAIR) CONTRACTS FOR GUILFORD COUNTY, NC
2. IDENTIFICATION OF MINORITY BUSINESSES PARTICIPATION (*Attach to Bid*)
3. AFFIDAVIT A – LISTING OF THE GOOD FAITH EFFORT (*Attach to Bid*)
4. AFFIDAVIT B - INTENT TO PERFORM CONTRACT WITH OWN WORKFORCE (*Attach to Bid*)
5. AFFIDAVIT C – PORTION OF THE WORK TO BE PERFORMED BY MINORITY FIRMS (Do not submit with *bid*)
6. AFFIDAVIT D – GOOD FAITH EFFORTS (*To be submitted only by the apparent lowest responsible, responsive bidder*)
7. APPENDIX E – MBE DOCUMENTATION FOR CONTRACT PAYMENTS (*To be submitted with each pay request – Final Payments – Final Reports by awarded bidder*)

**REQUIREMENTS PERTAINING TO THE PARTICIPATION OF MINORITY BUSINESSES IN BUILDING
(CONSTRUCTION - REPAIR) CONTRACTS FOR GUILFORD COUNTY, N.C.**

Date 1-1-02

One primary responsibility of Guilford County (GC) government is the proper use of public revenue to purchase the various items, services, construction and repairs needed to operate. All expenditures of county funds must be in accordance with the NC laws. Construction contracts are subject to applicable laws, including Article 8, N.C.G.S. Chapter 143, which shall control in the event of any conflict.

For building (construction - repair), whose estimated total cost is \$500,000 or more, a formal bid process is required. This generally consists of written specifications, advertisement, bid bond, usually a prebid meeting, at least three responses on the first opening, public opening of bids, Commissioners' approval, notice of award to all participants, and written contract.

Specifications for building (construction - repair) projects requiring an expenditure of \$500,000 or more requires separate specifications for the following areas of work:

- Heating, Ventilating and Air Conditioning (HVAC)
- Plumbing
- Electrical
- General

and may be bid separate-prime (allowing bids for each of the above categories), single- prime (a bid for the total project), or dual-prime, as provided in Article 8, N.C.G.S. Chapter 143. Award is made to the lowest responsive, responsible bidder(s), as provided by law.

Contractors who bid single-prime must identify in their bid response the names of each sub-contractor for HVAC, Plumbing and Electrical.

For building (construction - repair) projects requiring an expenditure of \$100,000 or more, state law (G.S. 143-128.2) requires the public government (awarding authority) involved to adopt, after a public notice and a public hearing, an appropriate verifiable percentage goal for participation by minority business in the total value of work for each building (construction - repair) contract awarded. G.S. 143-128.2 must be read, understood, and complied with by each bidder.

Guilford County has established its verifiable minority participation goal on 3-5-90 at ten (10) percent.

In addition, each separate-prime and single-prime contractor must establish its own goal when dealing with sub-contractors and provide appropriate documentation to the awarding authority.

In each case, the responsibilities of auditing and compliance with this law is that of the awarding authority, which in this case is Guilford County.

A minority business is defined as ownership of 51% or more by a minority. Minorities are officially defined as:

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

(Requirements - continued)

The Guilford County method of compliance is basically as follows:

1. For any expenditure of funds, including building construction and repair, it is GC's policy to give every supplier, business or contractor in Guilford County an equal and fair opportunity to participate. In order to accomplish this, we maintain a list of all suppliers, businesses and contractors. We have also identified all minorities on this list and we update this list on a continuous basis.
2. When bids are needed for any item, service, construction or repair, we make sure that all on our list are contacted by mail and/or phone. Larger expenditure items requiring formal bids are advertised.
3. All building construction and repair contracts over \$500,000 would be in the formal bid range requiring the mailing of bid packages (specifications), advertising and prebid meetings. All contractors on our list will either be mailed a copy of the bid package or notified in writing as to how a bid package can be obtained. All contractors on our list will also be invited to our prebid meetings.
4. In our bid package and at our prebid meeting, we explain that every contractor will be given an equal opportunity to obtain all or part of the contract award. Guilford County is ready and willing to work with any contractor to help it understand and properly compete for contract awards. The other requirements of G.S. 143-128.2 and G.S. 143-128.3 will be complied with by the County, when applicable.
5. Guilford County maintains a record as to who was awarded contracts and with the minority identification GC can state the percentage of minority participation.
6. This goal of ten (10) percent is a goal, and is not a requirement, demand, set aside or guarantee to minorities. It is, however, a serious goal and we seek to achieve this goal, as explained above, by continuing to give every supplier, business and contractor an equal opportunity to participate but to make all purchases and to award all contracts on the basis of best value.
7. All bidders shall make the minority participation disclosures required by G.S. 143-128.2(c) and comply with the other requirements of G.S. 143-128.2.

The state law requires and Guilford County expects its contractors to deal with their sub-contractors in the same manner and the state law and Guilford County require verification that this approach is being followed. The minority percentage goal set by each contractor for their sub-contractors is up to them and does not necessarily have to agree with the ten (10) percent which has been set by Guilford County. The method in which all prime contractors plan to attain this goal is, however, very important to GC and must be fully explained and it will be audited by GC.

Guilford County will help any contractor in this effort by supplying a list of all minority suppliers by trade category. Guilford County will consider a "good faith" effort by the contractor involved if the contractor makes a positive effort to contact each minority supplier and to allow each an equal opportunity to quote on the particular work involved.

If anyone has questions concerning GC's approach to the minority participation percentage goal, what is covered here, what is covered by the GC resolution, or the NC laws, they should contact Guilford County Purchasing at 336-641-3226.

(Requirements - continued)

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide on the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identity of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

Note: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of the participation form and Affidavit (**A**) required above.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

OR

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall

be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must submit **with their bid** the Identification of *Minority Business Participation* list and Affidavit **A** or Affidavit **B** as applicable. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder may be grounds for rejection of the bid.

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Identification of Minority Business Participation

I, _____,
(Name of Bidder)

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

[illegible]

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

The total value of minority business contracting will be (\$)_____

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State of North Carolina - AFFIDAVIT A - Listing of the Good Faith Effort

County of _____

Affidavit of _____
(Name of Bidder)

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

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

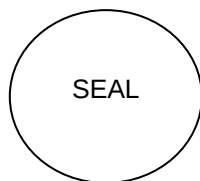
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d).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

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

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Attach to Bid

Attach to Bid

Attach to Bid

Attach to Bid

Attach to Bid

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

County of _____

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 project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

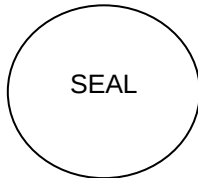
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

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Do not submit with bid

Do not submit with bid

Do not submit with bid

Do not submit with bid

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

County of _____

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

If the portion of the work to be executed by minority businesses as defined in GS143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit.

This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

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

(Project Name)

Project ID# _____ Amount of Bid \$ _____

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

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

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

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

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

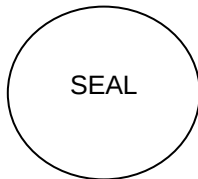
Title: _____

State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____



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Do not submit with bid

Do not submit with bid

Do not submit with bid

Do not submit with bid

State of North Carolina - AFFIDAVIT D - Good Faith Efforts

County of _____

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

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

Affidavit of _____

(Name of Bidder)

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

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work description	Dollar Value

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

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions. Examples of documentation include, but are not limited to, the following evidence:

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

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

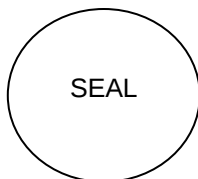
Title: _____

State of North Carolina, County of _____

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

Notary Public, _____

My commission expires _____



R09-02

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APPENDIX E
MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: _____

SCO Project ID: _____

Pay Application #: _____ **Period:** _____

The following is a list of payments made to Minority Business Enterprises on this project for the above-mentioned period.

MBE FIRM NAME	*TYPE OF MBE	AMOUNT PAID THIS MONTH (With This Pay App)	TOTAL PAYMENTS TO DATE	TOTAL AMOUNT COMMITTED

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

Approved/Certified by:

(Name)

(Title)

(Date)

(Signature)

SUBMIT WITH EACH PAY REQUEST-FINAL PAYMENT-FINAL REPORT

(Revised on 2/5/2008)

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Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00335– E-VERIFY AFFIDAVIT

COVER PAGE

STATE OF NORTH CAROLINA

AFFIDAVIT

COUNTY OF GUILFORD

I, _____ (the individual attesting below), being duly authorized by and on behalf of _____ (the entity bidding on project hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
 2. Employer understands that Employers Must Use E-Verify. Each employer, 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).
 3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. Mark "Yes" or "No":
 - a. YES _____; or,
 - b. NO _____
 4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.
- This ____ day of _____, 2015.

Signature of Affiant
Print or Type Name: _____

State of North Carolina County of Guilford

Signed and sworn to (or affirmed) before me, this the _____
day of _____, 2015.

My Commission Expires:

Notary Public

(Affix Official/Notarial Seal)

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00480 – NON-COLLUSION AFFIDAVIT

STATE OF (North Carolina)

()**SS.**
COUNTY OF ()

I, _____, **of the Municipality of**
_____, In the County of _____ and the
State of _____, of full age, being duly sworn according to law on my
oath depose and say that:

I am _____, of the firm of
_____, making the Proposal for
the above- named authority.

My submission of a response to this event certifies that I agree to the non-collusion agreement
contained below:

1. The submitter of this document is acting as an agent for their company who is the respondent that has submitted the attached bid response.
2. The undersigned person is fully informed concerning the preparation and contents of the attached response and of all pertinent circumstances related to it, and is authorized to sign this affidavit. This affidavit is given under penalty of perjury as provided by law.
3. Such bid response is genuine and is not collusive or sham in anyway whatsoever.
4. Neither the person responding nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including the signer of this affidavit, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other respondent, firm or person to submit collusive or sham response in connection with the contract for which the attached response has been submitted or to refrain from responding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other responder, firm or person to fix the price, or cost to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Board of County Commissioners, Guilford County or any person interested in the proposed contract.
5. The price or prices quoted in the attached response are fair and proper and are not derived by any collusion, conspiracy, connivance or lawful agreement and on the part of the respondent or any of its agents, representatives, owners, employees, or parties in interest.

(Name of Contractor)

Signature	(Type or Print Name)	Title	Date
-----------	----------------------	-------	------

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

Signature	(Type or Print Name)
-----------	----------------------

Notary Public of the State of _____

My Commission expires _____, 20_____.

END OF DOCUMENT 00480

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

SECTION 00481 – STATEMENT OF OWNERSHIP

I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued outstanding stock of the undersigned corporation. If one or more such stockholder or partner is itself a corporation or partnership, the stockholder holding 10% or more of that corporation's stock, or the individual partners owning 10% or greater interest in that partnership, as the case may be, are also listed.

Corporate Name

Attest: _____ Date: _____

Secretary

Officer

(Also, Print/Type Name)

(Also, Print/Type Name)

Affix Corporation Seal

Stockholders:

Name: _____

Home Address: _____

Name: _____

Home Address: _____

Name: _____

Home Address: _____

END OF DOCUMENT 00481

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

SECTION 00486 – CONSENT OF SURETY

The _____

(Name and address of Bidder)

a corporation existing under the Laws of the State of

and authorized to do business under the Laws of the State of North Carolina, hereby certifies that application has been made to us by

(Name and address of Bidder)

and satisfactory arrangements have been completed by which we have and do now agree to furnish a Performance Bond equal to 100% of the Contract to ensure the faithful performance on the part of the Bidder of the terms and conditions of the contract, and a labor and materials bond to ensure the payment of all persons furnishing labor and materials in accordance with the contract.

Title of Work: **Hagan-Stone Park Paving Repair Phase 2**

Location of Project: 5920 Hagan-Stone Park Road

This proposition is made with the understanding that any change made in the specifications or agreements without the consent of the bondsmen shall in no way vitiate the bond.

WITNESS:

SURETY COMPANY

Title: _____

Attorney-In Fact

By: _____

Date: _____

(Affix corporate seal)

END OF DOCUMENT 00486

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00490 – CONTRACTOR'S QUALIFICATION STATEMENT

A305™–2010-Contractor's Qualification Statement

(Included by reference)

*OBTAIN AND COMPLETE AN ORIGINAL COPY OF AIA A305 AND ATTACH TO
BID DOCUMENTS 00300 – FORM OF PROPOSAL AND
00310 - COMBINED FORM OF PROPOSAL.*

Original Copies of AIA A305 may be ordered from:

AIA North Carolina
A Chapter of the
American Institute of Architects
14 E. Peace Street
Raleigh, NC 27604
Tel: 919-833-6656 or
On-line: <http://www.aianc.org/order-documents>

(Search Keyword: A305 - Usually ships within 3 business days)

Hagan-Stone Park
5920 Hagan-Stone Park Road~~(Address of Facility)~~
Hagan-Stone Park Paving Repair Phase 2~~(Title of Project)~~

DOCUMENT 00500 – CONTRACT BETWEEN COUNTY OF GUILFORD AND PROVIDER

**CONTRACT
COVER PAGE**

NORTH CAROLINA
GUILFORD COUNTY

THIS CONTRACT is hereby made, entered into, and effective as of this ____ day of _____, 201____, by and between GUILFORD COUNTY, a body politic and corporate of the State of North Carolina, hereinafter referred to as the "COUNTY," and _____, a _____ [insert type of entity: sole proprietorship, corporation, limited liability company, professional limited liability company, etc.] with a place of business in _____, _____, [insert city & state of company location] hereinafter referred to as the "PROVIDER," and also collectively referred to as the "Parties."

W I T N E S S E T H :

WHEREAS, for the purpose and subject to the terms and conditions hereinafter set forth, the COUNTY hereby contracts for the items, goods, service or services of the PROVIDER and the PROVIDER agrees to provide the items, goods, service or services to the COUNTY in accordance with the terms of this Agreement.

WHEREAS, the COUNTY is in need of [insert brief description of goods and/or services] _____; and,

WHEREAS, the PROVIDER has submitted a proposal to provide such goods and/or services.

NOW, THEREFORE, in consideration of promises mutually exchanged the Parties agree as follows:

1. Goods and/or Services. PROVIDER will provide the goods and/or services as set forth in the **Specifications (Attachment A)** and **Proposal (Attachment B)**, attached hereto and incorporated herein by reference. All items and/or services shall be provided in a competent, workmanlike and professional manner acceptable to the COUNTY. Should there be any discrepancy between the PROVIDER'S Proposal (Attachment B) and the Specifications (Attachment A) and/or the first ____ pages of this Contract, the first ____ pages of this Contract and/or the Specifications (Attachment A) shall prevail and control.

2. Pricing. As full compensation for the PROVIDER'S delivery of the goods and/or services, the COUNTY agrees to pay the amounts for the goods and/or services as set out in Attachment B. Payment will be made by the COUNTY to PROVIDER within thirty (30) days of receipt of a correct invoice and proper documentation that the goods and/or services have been delivered or provided in accordance with this Contract.

PROVIDER'S Base Bid \$ _____
Alternates \$ _____ (alternates, unit prices and schedule of values on attached sheet)
County's Contingency \$ _____
The maximum financial exposure to the COUNTY under this Contract will not exceed \$ _____.

3. Appropriation. This Contract is subject to annual appropriation of funds by the Guilford County Board of Commissioners or other funding source, pursuant to N.C.Gen. Stat. Chapter §153A-13.

4. Effective Date. The Notice to Proceed will be issued by the GUILFORD COUNTY Facilities Department within approximately two (2) weeks of full execution of this Contract. The effective (starting) date of work to be performed under this Agreement will be set forth in the Notice to Proceed. The construction should be completed within _____ [insert number of days, months or years] from the date of the Notice to Proceed.

5. Addendum. The terms of this Agreement may only be modified or revised with a written Contract executed by both Parties.

6. Termination. The COUNTY may at any time and for any reason terminate PROVIDER'S services and work at the COUNTY'S convenience, after written notification to the PROVIDER via certified mail. Upon receipt of such notice, PROVIDER shall, unless the Notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

Upon such termination, PROVIDER shall be entitled to payment only as follows; (1) the actual cost of the work completed in conformity with this Agreement and (2) plus such other costs actually incurred by PROVIDER as approved by the COUNTY. The amount of any payments made to PROVIDER prior to the date of termination of this Agreement shall be deducted from such sums as provided in this subparagraph.

7. Notices. All notices pursuant to this Agreement shall be in writing and delivered personally or mailed by certified mail, registered mail, postage prepaid, with return receipt requested, at the addresses appearing below, but each Party may change such address by written notice in accordance with this paragraph. Notices delivered personally will be deemed communicated as of actual receipt. Mailed notices will be deemed communicated as of three (3) days after mailing.

Marty K. Lawing
Guilford County Manager
GUILFORD COUNTY
P.O. Box 3427 (zip code 27402)
301 West Market Street
Greensboro, NC 27401

President/Title
PROVIDER Co Name _____
PROVIDER Co Address _____
PROVIDER City State; Zip _____

8. Independent Contractor/Indemnification. PROVIDER shall operate as an independent contractor for all purposes. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between the COUNTY and either the PROVIDER or any employee or agent of PROVIDER. PROVIDER is an independent contractor and not an employee, agent, joint venture or partner of the COUNTY.

The Parties agree to each be solely responsible for their own acts or omissions in the performance of each of their individual duties hereunder, and shall be financially and legally responsible for all liabilities, costs, damages, expenses and attorney fees resulting from, or attributable to any and all of their individual acts or omissions to the extent allowable by law.

9. GUILFORD COUNTY LIABILITY INSURANCE REQUIREMENTS

WORKERS COMPENSATION

PROVIDER agrees to maintain coverage to apply for all employees for statutory limits in compliance with the applicable state and federal laws. The policy must include employer's liability with a limit of \$1,000,000 for each accident, \$1,000,000 for each employee, with a \$1,000,000 aggregate policy limit.

COMMERCIAL GENERAL LIABILITY

PROVIDER does hereby agree to maintain minimum limits of \$1,000,000 per occurrence, per location, single limit for bodily injury liability and property damage liability, with a \$2,000,000 aggregate limit, per location. This shall include premises and/or operations, independent contractors, products and/or completed operations, broad form property damage and explosion, collapse and underground damage coverage, and a contractual liability endorsement.

BUSINESS AUTO POLICY

PROVIDER does hereby agree to maintain limits of \$1,000,000 per accident combined single limit for bodily injury liability and property damage liability. This shall include: owned vehicles, plus hired and non-owned vehicles.

GUILFORD COUNTY shall be named as an additional insured on the PROVIDER'S general liability insurance policy, which shall be primary and not contributory to any other insurance that may be available to the county. PROVIDER will also secure its general liability insurance from an A rated insurance company acceptable to the COUNTY.

Upon the COUNTY'S offer of award of this Agreement, PROVIDER will provide Certificates of Insurance for meeting the required insurance provisions. **The Certificate of Liability statement shall state, "GUILFORD CONTRACT BETWEEN COUNTY OF GUILFORD AND PROVIDER**

COUNTY is added as an additional insured as evidenced by the endorsement attached to this certificate.” PROVIDER will also provide a copy of the additional insured endorsement to the COUNTY with their award package.

All insurance documents required under this Contract shall be forwarded to;

GUILFORD COUNTY

Attention: Risk Management

301 West Market Street Suite B-2

Greensboro, NC 27401

Reference: GUILFORD COUNTY CONTRACT NO. _____

With PROVIDER NAME

In the event PROVIDER fails to maintain and keep in force for the duration of this Contract the insurance required herein, the COUNTY may cancel and terminate this Contract without notice.

10. Assumption. If PROVIDER should undergo merger, acquisition, bankruptcy or any change in their ownership or their name for any reason, PROVIDER must immediately notify GUILFORD COUNTY in writing of these changes and provide the COUNTY with legal documentation supporting these changes, such as an Assumption Agreement, Bill of Sale, Articles of Incorporation, Articles of Amendment, sales contract, merger documents, etc. Further, PROVIDER will submit the name and address of the assuming PROVIDER'S registered agent for service of process and/or all notices required under this Contract.

11. Severability. If any provision of this Contract is held unenforceable, then such provision will be modified to reflect the Parties' intention. All remaining provisions of this Contract shall remain in full force and effect.

12. Force Majeure. Neither Party shall be liable to the other Party for any failure or delay caused by events beyond such Party's control and not due to its own negligence, provided that such Party uses commercially reasonable efforts to resume performance as soon as reasonably practicable. The non-performing Party shall notify the other Party of the force majeure event within twenty-four (24) hours of the onset thereof. In the event that a force majeure event precludes PROVIDER from performing services and/or providing goods for a period of ten (10) consecutive business days, the COUNTY shall have the right to: (a) procure replacement goods and/or services from an alternative source and/or (b) terminate the Contract or portion(s) of Contract upon written notice to PROVIDER.

13. Headings/Titles/Wording. Inclusion of titles of paragraphs or section headings, capitalization of certain words or phrases and/or bold face typestyle of certain words or phrases in this Contract are for convenience purposes only and shall not be used to interpret or construe the provisions of this Agreement. The terms "Contract" and "Agreement" have the same meaning and may be used interchangeably throughout this document. The terms "Attachment" and "Exhibit" have the same meaning and may be used interchangeably throughout this document.

14. Entire Agreement. This Contract, including the Exhibits and/or Attachments, if any, sets forth the entire Agreement between the Parties. All prior conversations or writings between the Parties hereto or their representatives are merged within and extinguished. This Contract shall not be modified except by a writing subscribed to by all the Parties.

15. Jurisdiction. The Parties agree that this Contract is subject to the jurisdiction and laws of the State of North Carolina. The CONTRACTOR will comply with bid restrictions, if any, and applicable laws, including N.C. Gen. Stat. §143-129(j) regarding E-Verify. Any controversies arising out of this Contract shall be governed by and construed in accordance with the laws of the State of North Carolina. An Affidavit Regarding E-Verify is attached hereto and incorporated herein by reference as **Exhibit I**.

16. Iran Divestment Act of 2015. Whereas, N.C. Gen. Stat. §147-86.59 requires that a State agency or political subdivision of the State must require persons attempting to contract therewith, including contract renewals or assumptions, to certify that the person or the assignees are not identified on the list created by State Treasurer pursuant to N.C. Gen. Stat. §147-86.58. Effective as of the date of this Contract, and in accordance with N.C. Gen. Stat. §147, Article 6E entitled "Iran Divestment Act," each Party hereby certifies that it is not identified on the Final

Divestment List created by the State Treasurer, which list of persons the Treasurer has determined engage in investment activities in Iran, including any subcontractors of either Party.

WITNESS the following signatures and seals all pursuant to authority duly granted, effective as of the day and year first above written.

GUILFORD COUNTY

ATTEST:

Marty K. Lawing, Guilford County Manager

Guilford County Clerk to Board

(COUNTY SEAL)

[Insert PROVIDER'S legal name. – This should match with their name in the introductory paragraph of this contract.]

ATTEST:

President

Corporate Secretary

Printed Name: _____

Printed Name: _____

(CORPORATE SEAL)

or

No Corporate Seal Exists:

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

Guilford County Finance Director

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00500 – CONTRACT BETWEEN COUNTY OF GUILFORD AND PROVIDER

**CONTRACT
COVER PAGE**

NORTH CAROLINA
GUILFORD COUNTY

THIS CONTRACT is hereby made, entered into, and effective as of this ____ day of _____, 201____, by and between GUILFORD COUNTY, a body politic and corporate of the State of North Carolina, hereinafter referred to as the "COUNTY," and _____, a _____ [insert type of entity: sole proprietorship, corporation, limited liability company, professional limited liability company, etc.] with a place of business in _____, _____, [insert city & state of company location] hereinafter referred to as the "PROVIDER," and also collectively referred to as the "Parties."

W I T N E S S E T H :

WHEREAS, for the purpose and subject to the terms and conditions hereinafter set forth, the COUNTY hereby contracts for the items, goods, service or services of the PROVIDER and the PROVIDER agrees to provide the items, goods, service or services to the COUNTY in accordance with the terms of this Agreement.

WHEREAS, the COUNTY is in need of [insert brief description of goods and/or services] _____; and,

WHEREAS, the PROVIDER has submitted a proposal to provide such goods and/or services.

NOW, THEREFORE, in consideration of promises mutually exchanged the Parties agree as follows:

1. Goods and/or Services. PROVIDER will provide the goods and/or services as set forth in the **Specifications (Attachment A)** and **Proposal (Attachment B)**, attached hereto and incorporated herein by reference. All items and/or services shall be provided in a competent, workmanlike and professional manner acceptable to the COUNTY. Should there be any discrepancy between the PROVIDER'S Proposal (Attachment B) and the Specifications (Attachment A) and/or the first ____ pages of this Contract, the first ____ pages of this Contract and/or the Specifications (Attachment A) shall prevail and control.

2. Pricing. As full compensation for the PROVIDER'S delivery of the goods and/or services, the COUNTY agrees to pay the amounts for the goods and/or services as set out in Attachment B. Payment will be made by the COUNTY to PROVIDER within thirty (30) days of receipt of a correct invoice and proper documentation that the goods and/or services have been delivered or provided in accordance with this Contract.

PROVIDER'S Base Bid \$ _____
Alternates \$ _____ (alternates, unit prices and schedule of values on attached sheet)
County's Contingency \$ _____
The maximum financial exposure to the COUNTY under this Contract will not exceed \$ _____.

3. Appropriation. This Contract is subject to annual appropriation of funds by the Guilford County Board of Commissioners or other funding source, pursuant to N.C.Gen. Stat. Chapter §153A-13.

4. Effective Date. The Notice to Proceed will be issued by the GUILFORD COUNTY Facilities Department within approximately two (2) weeks of full execution of this Contract. The effective (starting) date of work to be performed under this Agreement will be set forth in the Notice to Proceed. The construction should be completed within _____ [insert number of days, months or years] from the date of the Notice to Proceed.

5. Addendum. The terms of this Agreement may only be modified or revised with a written Contract executed by both Parties.

6. Termination. The COUNTY may at any time and for any reason terminate PROVIDER'S services and work at the COUNTY'S convenience, after written notification to the PROVIDER via certified mail. Upon receipt of such notice, PROVIDER shall, unless the Notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

Upon such termination, PROVIDER shall be entitled to payment only as follows; (1) the actual cost of the work completed in conformity with this Agreement and (2) plus such other costs actually incurred by PROVIDER as approved by the COUNTY. The amount of any payments made to PROVIDER prior to the date of termination of this Agreement shall be deducted from such sums as provided in this subparagraph.

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Marty K. Lawing
Guilford County Manager
GUILFORD COUNTY
P.O. Box 3427 (zip code 27402)
301 West Market Street
Greensboro, NC 27401

President/Title
PROVIDER Co Name _____
PROVIDER Co Address _____
PROVIDER City State; Zip _____

8. Independent Contractor/Indemnification. PROVIDER shall operate as an independent contractor for all purposes. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between the COUNTY and either the PROVIDER or any employee or agent of PROVIDER. PROVIDER is an independent contractor and not an employee, agent, joint venture or partner of the COUNTY.

The Parties agree to each be solely responsible for their own acts or omissions in the performance of each of their individual duties hereunder, and shall be financially and legally responsible for all liabilities, costs, damages, expenses and attorney fees resulting from, or attributable to any and all of their individual acts or omissions to the extent allowable by law.

9. GUILFORD COUNTY LIABILITY INSURANCE REQUIREMENTS

WORKERS COMPENSATION

PROVIDER agrees to maintain coverage to apply for all employees for statutory limits in compliance with the applicable state and federal laws. The policy must include employer's liability with a limit of \$1,000,000 for each accident, \$1,000,000 for each employee, with a \$1,000,000 aggregate policy limit.

COMMERCIAL GENERAL LIABILITY

PROVIDER does hereby agree to maintain minimum limits of \$1,000,000 per occurrence, per location, single limit for bodily injury liability and property damage liability, with a \$2,000,000 aggregate limit, per location. This shall include premises and/or operations, independent contractors, products and/or completed operations, broad form property damage and explosion, collapse and underground damage coverage, and a contractual liability endorsement.

BUSINESS AUTO POLICY

PROVIDER does hereby agree to maintain limits of \$1,000,000 per accident combined single limit for bodily injury liability and property damage liability. This shall include: owned vehicles, plus hired and non-owned vehicles.

GUILFORD COUNTY shall be named as an additional insured on the PROVIDER'S general liability insurance policy, which shall be primary and not contributory to any other insurance that may be available to the county. PROVIDER will also secure its general liability insurance from an A rated insurance company acceptable to the COUNTY.

Upon the COUNTY'S offer of award of this Agreement, PROVIDER will provide Certificates of Insurance for meeting the required insurance provisions. **The Certificate of Liability statement shall state, "GUILFORD COUNTY is**

added as an additional insured as evidenced by the endorsement attached to this certificate.” PROVIDER will also provide a copy of the additional insured endorsement to the COUNTY with their award package.

All insurance documents required under this Contract shall be forwarded to;

GUILFORD COUNTY

Attention: Risk Management

301 West Market Street Suite B-2

Greensboro, NC 27401

Reference: GUILFORD COUNTY CONTRACT NO. _____

With PROVIDER NAME

In the event PROVIDER fails to maintain and keep in force for the duration of this Contract the insurance required herein, the COUNTY may cancel and terminate this Contract without notice.

10. Assumption. If PROVIDER should undergo merger, acquisition, bankruptcy or any change in their ownership or their name for any reason, PROVIDER must immediately notify GUILFORD COUNTY in writing of these changes and provide the COUNTY with legal documentation supporting these changes, such as an Assumption Agreement, Bill of Sale, Articles of Incorporation, Articles of Amendment, sales contract, merger documents, etc. Further, PROVIDER will submit the name and address of the assuming PROVIDER’S registered agent for service of process and/or all notices required under this Contract.

11. Severability. If any provision of this Contract is held unenforceable, then such provision will be modified to reflect the Parties’ intention. All remaining provisions of this Contract shall remain in full force and effect.

12. Force Majeure. Neither Party shall be liable to the other Party for any failure or delay caused by events beyond such Party’s control and not due to its own negligence, provided that such Party uses commercially reasonable efforts to resume performance as soon as reasonably practicable. The non-performing Party shall notify the other Party of the force majeure event within twenty-four (24) hours of the onset thereof. In the event that a force majeure event precludes PROVIDER from performing services and/or providing goods for a period of ten (10) consecutive business days, the COUNTY shall have the right to: (a) procure replacement goods and/or services from an alternative source and/or (b) terminate the Contract or portion(s) of Contract upon written notice to PROVIDER.

13. Headings/Titles/Wording. Inclusion of titles of paragraphs or section headings, capitalization of certain words or phrases and/or bold face typestyle of certain words or phrases in this Contract are for convenience purposes only and shall not be used to interpret or construe the provisions of this Agreement. The terms “Contract” and “Agreement” have the same meaning and may be used interchangeably throughout this document. The terms “Attachment” and “Exhibit” have the same meaning and may be used interchangeably throughout this document.

14. Entire Agreement. This Contract, including the Exhibits and/or Attachments, if any, sets forth the entire Agreement between the Parties. All prior conversations or writings between the Parties hereto or their representatives are merged within and extinguished. This Contract shall not be modified except by a writing subscribed to by all the Parties.

15. Jurisdiction. The Parties agree that this Contract is subject to the jurisdiction and laws of the State of North Carolina. The CONTRACTOR will comply with bid restrictions, if any, and applicable laws, including N.C. Gen. Stat. §143-129(j) regarding E-Verify. Any controversies arising out of this Contract shall be governed by and construed in accordance with the laws of the State of North Carolina. An Affidavit Regarding E-Verify is attached hereto and incorporated herein by reference as **Exhibit I**.

16. Iran Divestment Act of 2015. Whereas, N.C. Gen. Stat. §147-86.59 requires that a State agency or political subdivision of the State must require persons attempting to contract therewith, including contract renewals or assumptions, to certify that the person or the assignees are not identified on the list created by State Treasurer pursuant to N.C. Gen. Stat. §147-86.58. Effective as of the date of this Contract, and in accordance with N.C. Gen. Stat. §147, Article 6E entitled “Iran Divestment Act,” each Party hereby certifies that it is not identified on the Final Divestment List created by the State Treasurer, which list of persons the Treasurer has determined engage in investment activities in Iran, including any subcontractors of either Party.

WITNESS the following signatures and seals all pursuant to authority duly granted, effective as of the day and year first above written.

GUILFORD COUNTY

ATTEST:

Marty K. Lawing, Guilford County Manager

Guilford County Clerk to Board

(COUNTY SEAL)

[Insert PROVIDER'S legal name. – This should match with their name in the introductory paragraph of this contract.]

ATTEST:

President

Corporate Secretary

Printed Name: _____

Printed Name: _____

(CORPORATE SEAL)

or

No Corporate Seal Exists:

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

Guilford County Finance Director

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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DOCUMENT 00821 – SUPPLEMENTARY GENERAL CONDITIONS OF THE CONTRACT

Article 1 Scope

This section of the Contract defines the Supplementary General Conditions governing the performance of the Contract between the OWNER and the Contractor (collectively, the "Parties").

Article 2 Definitions

- A. ADDENDA (AMENDMENT, paragraph 5 of the Contract): Any written or graphic instrument issued prior to the opening of bids which clarifies, corrects, or changes any part of the bidding documents or the Contract Documents.
- B. AS BUILT DRAWINGS: Detailed drawings that accurately and clearly indicate in detail the actual Work performed on the Project.
- C. CHANGE DIRECTIVE – A written order to the Contractor signed by the Owner directing an addition, deletion, or revision in the Work after execution of the Construction Agreement, in circumstances when the parties have been unable to agree on an adjustment to the Contract Price or the Contract Time, but the Owner requests that the Contractor proceed with said Work subject to adjustment of the Contract Price and/or Contract Time under the procedures described herein.
- D. CHANGE ORDER - A written order to the Contractor signed by the Owner and the Designer authorizing an addition, deletion, or revision in the Work and/or an adjustment in the Contract Price and/or the Contract Time issued after execution of the Construction Agreement.
- E. COMPLETION DATE - Those dates identified as Completion Dates in the Contract Construction Schedule or elsewhere in the Contract Documents.
- F. CHANGE OF CONTRACT: A written order, issued after the effective date of the Contract, and executed by the OWNER and Contractor, which authorizes an addition, deletion or revision in the Work and which may include an adjustment in the Contract Sum or the time of performance of the work. Construction Manager(s) - The person or firm designated as the Construction Manager in the Contract Documents, or their authorized representatives. The Construction Manager(s), as referred to herein, will be referred to hereinafter as if each were of the singular number, masculine gender.
- G. CONSTRUCTION PROGRESS SCHEDULE: The Construction Progress Schedule or Schedule.
- H. CONTRACT: That certain document (of which these General Conditions are a part), and all of its schedules, exhibits and subsequent amendments, which defines the scope of the Contractor's Work and specifies the Contract Sum.
- I. CONTRACT DOCUMENTS: The Contract Documents are as defined in the Contract between the OWNER and the Contractor. The Contract Documents shall include all other documents issued after execution of the Contract, including, without limitation, Changes of Contract, Change Directives and contract modifications that are intended to bind the Parties hereunder. All of the documents that make up the Agreement, plus the Drawings and Specifications that describe the scope of the Work, plus allowable Modifications to the Contract Documents.
- J. CONTRACT TIME - The number of calendar days stated in, or computed from, the Contract Documents for the completion of the Work, or any portion thereof. The contract time is in consecutive calendar days, beginning on the date of the Commencement as specified in the written Notice-to Proceed.

- K. CONTRACT SUM: The total monies payable to the Contractor under the Contract Documents pursuant to paragraph 15.1 of the Agreement.
- L. CONTRACTOR: The entity that executed the Contract and is identified therein, which has agreed to assume the responsibility of undertaking the execution of the Work under the terms of the Contract Documents and to be liable for the acceptable performance of the Work and for the payment of all legal debts pertaining thereto. The term Contractor also means the Contractor's representative.
- M. DAY: Unless otherwise specified, the words "day" or "days" shall mean calendar day or calendar days.
- N. DRAWINGS: The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, and dimensions of the Work, and generally including plans, elevations, sections, details, schedules and diagrams. Drawings may also be referred to as "Plans".
- O. FINAL PAYMENT: shall follow Guilford County Policy per Guilford County's General Terms and Conditions article 15. The point at which the Contractor has, as determined by the Owner, completed the Work, with the exception of guaranty and warranty obligations, and becomes entitled, upon the recommendation of the A/E and determination by the Owner, to receive final payment.
- P. FINAL PUNCHLIST: shall have the meaning set forth in Paragraph 9.D.
- Q. FORCE MAJEURE: Shall have the same meaning set forth in paragraph 11 of the Contract.
- R. The words "furnish," "furnish and install," "install," and "provide" or words with similar meanings shall be interpreted, unless otherwise stated, to mean furnish and install complete, in place and ready for service.
- S. HAZARDOUS MATERIALS: Any substance or material containing one or more of any of the following: "hazardous material," "hazardous waste," "hazardous substance," "regulated substance," "petroleum," "pollutant," "contaminant," "polychlorinated biphenyls," "lead or lead-based paint" or asbestos" as such terms are defined in any applicable federal, state and local laws, rules and regulations (now or hereafter in effect) dealing with the use, generation, treatment, storage, disposal or abatement of hazardous materials.
- T. LAW(S): All federal, state, local or quasi-governmental laws, statutes, ordinances, codes, orders, rules, restrictive covenants, regulations and other requirements applicable to performance of the Work or construction or operation of the Project, including, without limitation: building codes; environmental laws; social security and unemployment compensation laws; workers' compensation laws; safety laws; archaeological and paleontological preservation laws; requirements of local utility companies and of local and national fire protection associations; zoning and setback or other locational requirements of applicable Laws; the Americans with Disabilities Act; and federal, state and local employment laws. Laws shall also include any covenants, conditions or restrictions applicable to or affecting the Project or the Site.
- U. LIQUIDATED DAMAGES – The Liquidated Damages is the amount stipulated in the Supplementary General Conditions per day per Prime Contractor as Liquidated Damages reasonably estimated in advance to cover the losses to be incurred by the Owner by reason of failure of said Contractor(s) to complete the Work within the time specified, such time being in the essence of this contract and a material consideration thereof.
- V. OWNER: County of Guilford, its successors and assigns (including any person designated by the OWNER International as a Project representative), acting as agent for the OWNER for purposes of administering the Contract.
- W. MODIFICATION: (1) a written amendment to the Contract signed by both parties which clarifies, revises or changes the Contract Documents, (2) a Change of Contract or Change Directive or (3) any written

interpretation, clarification or amplification issued by the OWNER pursuant to the terms hereof.

- X. NOTICE TO PROCEED: A written notice given by the OWNER to the Contractor fixing The Date of Commencement on which Contractor shall start to perform Contractor's obligations under the Contract Documents.
- Y. PRODUCT DATA: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams or other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.
- Z. PROJECT: The total construction of which the Work performed under the Contract Documents may be the whole or a part.
- AA. REQUEST FOR INFORMATION (RFI): A written communication from the Contractor to the AE for any interpretation of, or information needed, required, or desired under the Contract Documents. The Owner reserves the right to determine the reasonable format and contents required for a Request for Information. In any Request for Information, the Contractor shall state a reasonable date by which a response is necessary in order to avoid delay in progress on the Work and shall make such request sufficiently in advance of such date as to avoid any such delay. The AE shall respond in writing to the Request for Information by the date stated by the Contractor unless he cannot reasonably do so, in which case he shall prior to that date notify the Contractor of the date by which he can reasonably respond. The Contractor shall not be entitled to any additional time for the completion of the Work or any portion thereof by reason of the AE's failure to respond.
- BB. SHOP DRAWINGS: Drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the Work required by the Contract Documents.
- CC. SITE: The physical area where the Work is to be done.
- DD. SPECIAL PROVISIONS: That part of the Contract Documents which amends or supplements these General Conditions and other requirements of the Contract Documents.
- EE. SPECIFICATIONS: Those portions of the Contract Documents consisting of written technical descriptions, provisions or requirements pertaining to the materials and workmanship applicable to the Work to be performed under the Contract Documents, including, but not limited to, the quantities or quality of materials, equipment, construction systems or applications.
- FF. SUBCONTRACTOR: Any person or organization having a direct contract with the Contractor (or any wholly owned or affiliated entity thereof) to perform a portion of the Work or provide materials for the Project.
- GG. SUBMITTALS: Shop drawings, product data, samples, and other documents required by the Contract Documents to be submitted by the Contractor to the AE.
- HH. SUBMITTAL REGISTER: Submittal Register is a listing all Submittals the Contractor is required to make or proposes to make under the Contract Documents with the dates on which the Contractor proposes to make such Submittals and the dates by which the Contractor reasonably requires a response from the Designer with respect to each Submittal.
- II. SUBSTANTIAL COMPLETION: The completion of the Work to the point that (i) the OWNER, in its reasonable judgment, can use the Project for its intended use, (ii) the Project has been issued a permanent certificate of occupancy or a temporary certificate of occupancy where a permanent certificate of occupancy can reasonably be obtained upon completion or correction of minor Work and (iii) the Work

has been completed except for those items specifically identified in the Final Punch list. (iv) All operations and maintenance manuals, Owner training, and as-built drawings must be submitted prior to Substantial Completion being achieved.

- JJ. SUPPLIER: Any party supplying, by sale or lease, directly or indirectly, any materials or construction equipment for the Contractor's Work and includes distributors, material men, vendors and manufacturers.
- KK. UNIT PRICE: The standard, uniform price which the Contractor has provided for a specific item or type of Work which may be required for the Project. A Unit Price constitutes the Contractor's entire compensation for performing that item of Work.
- LL. WORK: As farther described in the Contract Documents, all construction and other services necessary to complete the Project as required by the Contract Documents, except to the extent specifically indicated to be the responsibility of the OWNER or others, and includes all labor, materials, equipment, supplies, permits, licenses and services provided or to be provided by the Contractor to fulfill its obligations. The Work may constitute the whole or part of the Project.

Article 3 *Execution, Correlation And Intent Of Documents*

- A. COMPLEMENTARY: Throughout the Contract Documents, various requirements have been specified for performance by the Contractor. Each such Contract item is mandatory and shall be performed by the Contractor. Contract Documents are complementary and shall be used as a whole and not separately. If any item of the Work is shown on any of the Contract Documents, it shall be executed and is binding as if shown and contained on all Contract Documents.
- B. ORDER OF PRECEDENCE: If any portion of the Contract Documents conflict with any other portions, the following order of precedence shall control:
 - 1. Modifications to the Contract
 - 2. Contract between the OWNER and Contractor (including Exhibits and Schedules thereto);
 - 3. Addenda to the Contract;
 - 4. Special or Supplementary Conditions;
 - 5. General Conditions;
 - 6. Scope of Work;
 - 7. Modifications to the Specifications;
 - 8. Addenda to the Specifications;
 - 9. Specifications;
 - 10. Modifications to the Drawings;
 - 11. Addenda to the Drawings;
 - 12. Drawings, in the following order of precedence;
 - a) Notes on Drawings;
 - b) Large-scale Drawings;
 - c) Large-scale details;
 - d) Small-scale Drawings;
 - e) Small-scale details;
 - f) Figured dimensions;
 - g) Scaled dimensions;
 - 13. All other documents, terms and conditions of the Contract;
 - 14. If any uncertainty remains after reference to the above precedence, the Contractor will then confer with and be governed by the interpretation(s) of the OWNER.

- C. **INTEGRATION CLAUSE:** The Contract Documents constitute the entire agreement between the Parties and supersede all previous discussions, negotiations, agreements and understandings with respect to the subject matter hereof. No verbal agreement or conversation with any officer, agent or employee of the OWNER or Contractor, either before or after the execution of the Contract, shall affect or modify any of the terms or obligations in the Contract Documents. The Contract Documents may only be changed in writing as specified herein.
- D. **REFERENCED SPECIFICATIONS AND STANDARDS:** Where standard specifications issued by a recognized industry association or regulatory body are referenced, the reference shall be interpreted as incorporating the standard specifications in total unless otherwise noted in the Contract.
- E. **INTENT OF CONTRACT DOCUMENTS:** It is the intent of the Specifications and Drawings and other Contract Documents to describe a complete Project in accordance with the Contract Documents. Where the Contract Documents describe portions of the Work in general terms, but not in complete detail, the best general practice shall be followed and only new materials and workmanship of best standard quality shall be used unless otherwise directed. Omissions from the Contract Documents or the inadequate description of details of the Work which are manifestly necessary to carry out the intent of the Contract Documents, or which are customarily performed, shall not release the Contractor from performing such necessary or customary details of the Work at no extra cost to the OWNER. In general, the Drawings shall be considered as establishing location, quantity and relationship of materials and the Specifications shall be considered as defining type and quality of materials and workmanship requirements. The requirements for the greatest quantity and the highest quality to be interpreted from those documents shall govern. All questions regarding the Drawings and Specifications and the interpretation thereof and the resolving of conflicts or inconsistencies contained therein shall be determined by the OWNER upon written request from Contractor.
- F. The Work of all trades under the Contract Documents shall be coordinated by the Contractor in such a manner as to obtain the best workmanship possible for the entire Project and all components of the Work shall be installed or erected in accordance with the best practices of the particular trade.

Article 4 Contractor's Representations

- A. **CONTRACTOR REPRESENTATIONS:** By executing the Contract, the Contractor represents and warrants that it has had ample opportunity to, and by careful examination has, satisfied itself as to the nature and location of the Work, the conditions of the Site(s), the character, quality, and quantity of the materials to be encountered, the equipment and facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, including weather, and all other matters which can in any way affect the Work under the Contract Documents, and has, as necessary, consulted with the OWNER's architect or other consultants to obtain any and all clarifications necessary to establish the Contract Sum and the time for performance of the Work.
- B. **REVIEW OF CONTRACT DOCUMENTS:** Contractor further warrants that it has reviewed the Contract Documents and acknowledges and declares they are adequate, full, complete and correct, are sufficient to have enabled the Contractor to determine the cost of the Work therein and that the Drawings, the Specifications, and all Modifications and Addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with applicable Laws and otherwise to fulfill all its obligations hereunder. The Contractor shall not proceed with the Work if any error, omission or inconsistency appears within the Contract Documents, but shall immediately submit a written request for an explanation or decision to the OWNER. Should Contractor proceed without a written response by the OWNER, it shall do so at its own risk and expense.
- C. **DIFFERING SITE CONDITIONS:** Contractor understands and acknowledges that any hazardous material report(s) it has received from the OWNER concerning the Project Site are for informational purposes only, that the OWNER does not warrant the contents or accuracy of such report(s). Contractor represents that it

shall verify the report prior to commencement of the Work. Contractor shall be solely responsible for any concealed or unknown conditions. The presence of such concealed or unknown conditions shall not be the basis for any extension of time or adjustment in the Contract Sum.

- D. **BUSINESS AND FINANCIAL DOCUMENTAION:** Contractor shall provide the OWNER with Contractor's (i) contractor license, (ii) business license and (iii) other business or professional documentation reasonably requested by the OWNER. In the event that any of the foregoing documents expire during the term of this Contract, Contractor shall provide the OWNER with evidence that such documents have been renewed. Upon request by the OWNER, Contractor shall also provide the OWNER with all financial documentation and information reasonably requested by the OWNER, including, without limitation, AIA Document A305 (Contractor's Qualification Statement) and audited financial statements. To the extent Contractor has provided the foregoing documents and information to the OWNER prior to execution of the Contract, Contractor shall update such documentation and information as reasonably requested by the OWNER.
- E. **SUPERINTENDENT:** The Owner shall have the right to approve the Contractor's project superintendent proposed for this project and shall have the right to require removal of the Contractor's key personnel from the job site if their performance is not satisfactory.

Article 5 *Contractor's Duties And Responsibilities*

- A. The Contractor shall supervise and direct its portion of the Work using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for coordination of all portions of the Work under its Contract. All Work performed pursuant to the Contract Documents shall conform in all respects to the North Carolina State Building Code and all other state, local, and national codes in effect at the time of and applicable to this Work.
- B. The Contractor shall be responsible to the OWNER for the acts and omissions of its employees, subcontractors, and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.
- C. The Contractor shall provide, pay for and maintain all labor, materials, equipment, tools, machinery and services necessary for the proper execution and completion of the Work. All materials and equipment furnished by the Contractor shall be new, free from faults and defects, of good quality, and conform to the requirements of the Contract Documents.
- D. The Contractor shall not be relieved from its obligations to perform Work in accordance with the Contract Documents either by the activities or duties of the OWNER in the administration of this Contract, or by inspections, tests, acceptances, or approvals required or per-formed by persons other than the Contractor.
- E. In performing its obligations hereunder, Contractor shall, at a minimum, conform to the standards of other professional contractors performing similar work in the locale in which the Project is located.
- F. The Contractor shall, prior to commencement of the Work, submit to the OWNER, for its approval, the name and experience resume of Contractor's proposed project manager and/or superintendent. The Contractor shall also submit the names of key members of its firm who will be directly connected with the Project and outline the duties and authority of each.
- G. The Contractor shall have at the Project site, during the full term of the Contract, an approved, competent, full-time superintendent fluent in the English language, and any necessary assistants, all satisfactory to the OWNER. Contractors' superintendent shall represent the Contractor and all directions given such superintendent by the OWNER shall be as binding as if given to the Contractor. The Contractor shall at all times enforce strict discipline and good order among its employees and

shall not employ on the Work any unfit person, anyone not skilled in the work assigned to him or her and anyone who is not satisfactory to the OWNER.

- H. Contractor acknowledges that the OWNER's consultants (including, without limitation, its architect) do not have the authority, either explicit or implied, to act on behalf of the OWNER to approve, disapprove, accept or reject any documentation, submission, request or proposal submitted by Contractor, unless and only to the extent that the OWNER has in writing authorized such consultant to perform the foregoing.
- I. All correspondence from Contractor to the OWNER shall identify the OWNER's project number and name.
- J. The Contractor shall provide sufficient competent and suitably qualified personnel, equipment, and supplies to lay out the Work and perform construction as required by the Contract Documents. The Contractor will at all times maintain good discipline and order at the site, and will comply with all applicable OSHA standards.
- K. Any person employed by the Contractor, any Subcontractor, or any sub-subcontractor who, in the opinion of the Designer or the Owner, does not perform his Work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Owner or Designer, be removed forthwith by the Contractor, Subcontractor, or sub-subcontractor employing such person without cost to the Owner, and shall not be employed again in any portion of the Work without the written approval of the Owner or Designer.
- L. Should the Contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work within three (3) days after written order, the Owner may withhold further payment by written notice until compliance with such order.
- M. When the methods and equipment to be used by the Contractor accomplishing the Work are not prescribed in the Contract Documents, the Contractor shall be free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.
- N. The Contractor shall attend job progress conferences and all other meetings or conferences as directed by the Designer. The Contractor shall be represented at these job progress conferences by a representative having the authority of the Project Manager and by such other representatives as the Designer may direct. Job progress conferences shall be open to Subcontractors, suppliers and any others who may contribute beneficially toward maintaining required job progress, and such personnel shall be encouraged by the Contractor to attend. It shall be the principal purpose of job progress conferences to effect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the Project on schedule and to complete the Work and the Project by the specified Completion Dates. The Contractor shall be prepared to assess progress of the Work as required in the Contract Documents and to recommend remedial measures for correction of progress as may be appropriate. The Designer shall preside as chairman and arrange for minutes to be taken and circulated.
- O. The Contractor shall pay all license fees and royalties, and assume all costs incident to the use of any invention, design process, or device which is the subject of patent rights or copyrights held by others, except for inventions, design processes, or devices specified by the Designer in the Contract Documents. The Contractor shall indemnify and hold harmless the Owner, the Designer, and anyone directly employed by either of them, from and against all claims, damages, losses and expenses, including attorney's fees and costs of defense, arising out of any infringement or alleged infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any actual or alleged infringement of such rights.
- P. The Contractor shall secure and pay for all permits, including without limitation construction permits and licenses, and will pay all governmental charges and inspection fees necessary for the prosecution of the Work.
- Q. The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the Work and shall protect and indemnify the Owner and the Owner's officers, agents, or

servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or by the Contractor's employees, Subcontractors, sub-subcontractors, or their employees.

- R. The Contractor shall indemnify and hold the Owner, the Designer, the Designer's consultants, and their officers, agents, and employees harmless against all costs, damages, and expenses, including attorney's fees and costs of defense, arising out of claims by any separate contractor or by any Subcontractor, sub-subcontractor, or supplier engaged by or employed by the Contractor or employed by any of the Subcontractors claiming through him, including without limitation damages, losses, and expenses arising out of or relating to any inconvenience, delay, interference, or other action or non-action of the Contractor or the Contractor's Subcontractors on the Project.
- S. Any land disturbing activity performed by the 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 Sedimentation Pollution Control Act of 1973, as implemented by Title 15 North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 NCAC 4A, 4B, and 4C), and as may be revised or amended in the future. 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. The Contractor shall be responsible for all penalties assessed pursuant to N.C. Gen. Stat. 113A-64 with respect to its Work, and shall indemnify and hold harmless the Owner from all costs and expenses, including attorney's fees and costs of defense arising out of or related to the enforcement of the Act against any party or person described in this Article.

Article 6 Substitutions

- A. **SUBSTITUTION:** The Contractor may offer a substitution of a specified or indicated method if it presents to the OWNER complete information concerning the substitution and the benefits thereof to the OWNER by reason of lower cost or improved performance, or both, over the specified or indicated method. However, such submission of a proposed substitution does not relieve the Contractor from its obligations under the Contract. In proposing a substitution, the Contractor warrants that the substitution is, at a minimum, equivalent in performance to the specified or indicated item. A substitution shall not be effective unless accepted in writing by the OWNER. Unless expressly authorized in writing by the OWNER, the OWNER's consultants do not have the authority to approve proposed substitutions.
- B. **ADDITIONAL COST AND TIME:** Any additional costs and time and changes to the Work (including, but not limited to the work of other contractors and additional design costs which may be affected thereby) which may result from the proposed substitution shall be disclosed at the time the substitution is proposed to the OWNER. Changes to the Work and any additional costs or time there from which are not disclosed in advance to the OWNER shall be the sole responsibility of the Contractor and shall not increase the Contract Sum or the time for performance of the Work. All redesign costs incurred by reason of an approved substitution shall be paid by the Contractor.
- C. **APPLICATION:** Requests for review of substitute demolition methods will not be accepted by the OWNER from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute demolition method, the Contractor shall make written application to the OWNER in accordance with specification.
- D. **REPRESENTATIONS:** By submitting an application pursuant to Paragraph 7(D), the Contractor:
 - 1. Represents that it has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
 - 2. Represents that it will provide the same warranty for the substitution as the original product specified;
 - 3. Certifies that the cost and schedule data presented is complete and includes all related costs and schedule adjustments under the Contract Documents, and waives all claims for additional

costs and schedule adjustments related to the substitution which subsequently become apparent; and

4. Agrees to coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects.

- E. UNAPPROVED SUBSTITUTIONS: The OWNER reserves the right to reject any unapproved substitution without explanation or formality, and to require the replacement of an unapproved substitution with the specified and/or indicated items at no expense to the OWNER, and to require compensation to the OWNER for loss of use time during replacement.

Article 7 Submittals

- A. SUBMITTALS: Upon the earlier of: (1) the execution of the Contract; or (2) receipt of a Notice to Proceed, the Contractor shall immediately begin developing all Submittals required by the Contract Documents. The Contractor shall submit to the Designer within fourteen (14) days all Submittals required by the Contract Documents. The Contractor shall submit three (3) reproducible prints of all shop drawings plus the number of copies sufficient for his requirements. The Contractor shall submit samples in quantities required by the Contract Documents. The Contractor shall submit product data in five (5) copies, plus the number of copies sufficient for the Contractor's requirements. Each item submitted shall be thoroughly reviewed by the Contractor and shall include a stamp or note describing the Contractor's action signed by the person authorized by the Contractor to conduct the review with that person's name clearly printed. Submittals shall be submitted in such time as to cause no delay to the Work or any part thereof and in accordance with the Contract Construction Schedule and Submittal Register. The Designer shall review the submittal with reasonable promptness, noting desired corrections, if any. The Designer shall retain two (2) copies of the submittal and shall return the balance of the reviewed submittal to the Contractor for action. The Contractor shall furnish any corrected submittal to the Designer. The Designer shall retain two (2) copies of the corrected submittal and will return the balance of the reviewed submittal to the Contractor.
- B. CONTRACTOR REVIEW: Contractor shall review each submittal for completeness, conformance to the Contract Documents and coordination with other parts of the Work and the Construction Progress Schedule. By providing and submitting to the OWNER or, if otherwise specified in the Contract Documents, to the OWNER 's designee, Shop Drawings, Product Data, warranties and Samples, the Contractor will be deemed to represent that it has determined and verified (1) the availability of all materials, and (2) field measurements and field construction criteria related thereto, and that it has checked and coordinated the information contained within such Submittals with the requirement of the Work, the Contract Documents and the Construction Progress Schedule and that such Shop Drawings, Samples, warranties and Product Data conform to the Contract Documents.
- C. APPROVAL: Contractor shall not proceed to perform Work related to a Submittal until the Submittal has been approved by the OWNER (for purposes of this Article 7, approval by the OWNER's designated consultants shall be deemed to be approval by the OWNER); such Work shall thereafter be performed in accordance with the Contract Documents and the approved Submittal.
- D. INCOMPLETE SUBMITTALS: The OWNER may return incomplete Submittals with no action taken. The Contractor shall have no claim for any damages or for an extension of time due to delay in the Work resulting from the rejection of materials or from the rejection, correction, and resubmittal of Shop Drawings, Samples and Product Data, or from the untimely submission thereof
- E. ACCEPTANCE: Acceptance by the OWNER is for general demolition intent only. Quantities, size, field dimensions and locations are some of the required characteristics which are not part of the OWNER's acceptance and will not be checked. Accordingly, the OWNER's limited acceptance shall in no way relieve the Contractor from its obligation to conform its Work to required characteristics, to Project specifications and to the Contract Documents. Review of submittal by the Designer shall not be construed as relieving

the Contractor from responsibility for compliance with terms or designs of the Contract Documents nor from responsibility for errors of any sort in the submittal.

- F. **DEVIATIONS:** The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the OWNER's approval of Submittals, unless the Contractor has specifically informed the OWNER in writing of such deviation at the time of submittal and the OWNER has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Submittals by the OWNER's approval thereof.
- G. **SUBMISSION SCHEDULE:** Contractor shall submit a schedule showing dates for submission, review and approval of its Submittals. This schedule will be reviewed by the OWNER and any and all changes required by the OWNER shall be made by the Contractor. The final schedule shall be as approved by the OWNER. The schedule shall take into account the order of Work and the time required to prepare and approve the various Submittals. Such schedule shall ensure that all Contractor submissions are timely and that the dates set forth for each Submittal do not adversely affect the requirements of the Work, the Construction Progress Schedule or the time for completion set forth in this Contract.
- H. **RIGHTS IN SHOP DRAWINGS:** The OWNER may duplicate, use and disclose in any manner and for any purpose Shop Drawings delivered under this Contract. This "Rights in Shop Drawings" Subparagraph shall be included in all subcontracts hereunder of any tier.
- I. **COORDINATION DRAWINGS:** If requested by the OWNER, Contractor shall submit drawings demonstrating coordination of the various portions of the Work, in such form and with such detail as required by the OWNER.

Article 8 *Standards, Tests And Inspections*

- A. **REFERENCE SPECIFICATIONS OR STANDARDS:** Quality and high standards are of the essence for the Work. Various standards and specifications are incorporated by reference in the technical section of the Specifications. In all such instances, the reference shall mean the latest edition, including the amendment or revision in effect as of the date of the Contract unless a specific issue is otherwise identified. If referenced specifications or standards contain requirements at variance with the individual sections of the Specifications, the more stringent provision shall govern. The Contractor shall have the responsibility of making any specified standard available at the Project Site, including, but not limited to, any sample or mock-up rooms required by the OWNER, as set forth in the Special Provisions.
- B. **INSPECTIONS AND TESTS**
 - 1. **Testing.** An independent laboratory and field tests firm is to be hired to determine compliance of construction with the Contract Documents. The test shall be made by a testing consultants employed by the Contractor. The costs and expenses of providing samples for and assistance in any testing shall be borne by the Contractor and are included in the Contract Price. Any Work in which untested materials are used without approval or written permission of the Designer shall be removed and replaced at the Contractor's expense. Work found to be unacceptable or unauthorized will not be paid for and, if directed by the Designer shall be removed and replaced at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM or other generally recognized or specifically authorized methods which are current on the date of advertisement for bids shall be made at the expense of the Contractor; provided, however, in the event that after such testing any Work is found to be defective or does not meet the requirements of the Contract Documents, the costs of retesting such Work and the costs of inspection services shall be paid by the Contractor. Samples shall

be taken by a testing laboratory employed by the Owner. All materials being used are subject to inspection, tests, or rejection at any time prior to or during incorporation into the Work. Copies of Contractor test reports shall be furnished to the Designer and Owner.

2. *Re-Testing.* The Owner shall have the right to re-test and if the test fails the Owner can deduct the costs of additional testing from any money due the Contractor; or if no money is due the Contractor, the Owner shall have the right to recover these costs from the Contractor, from its sureties, or from both.
3. *Layout and Surveys.* All layouts and surveying shall be accomplished by properly qualified personnel duly licensed in the State of North Carolina.
4. *Concealed Work.* If the OWNER has notified Contractor of its intent to test and/or inspect a portion of the Work, then, if such Work is concealed before such tests are performed or before approval is given, it shall be exposed, tested and restored at the Contractor's expense. Notwithstanding the foregoing, even if the OWNER has not notified Contractor of its intent to test and/or inspect a portion of the Work, the OWNER may require the Contractor to expose concealed Work for the purpose of testing and/or inspection. If the Work so exposed fails to meet the requirements of the Contract Documents, the Contractor shall be responsible for all costs associated with exposure, testing and/or inspection, replacement, and reconstruction or restoration. If the Work so exposed meets the requirements of the Contract Documents, the OWNER shall be responsible for all such costs.
5. *Performance Testing.* Witnessed performance tests, inspections and approvals shall occur when required by governing authorities or when required by the Contract Documents. The Contractor shall notify the OWNER at least three (3) business days in advance of the date the equipment will be ready for the final shop or field inspection or for performance tests. These tests, and any required retests, shall be performed at the Contractor's expense. The Contractor, at its cost, shall promptly obtain and provide the OWNER with all certificates and approvals.
6. *Obligation To Furnish For Testing.* The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the OWNER. All inspections and tests by the OWNER shall be performed in such a manner as to not unnecessarily delay the Work. The OWNER reserves the right to charge to the Contractor any additional cost of inspection or test, when material or workmanship is not ready by the Contractor for inspection or test at the time specified, or when reinspection or retest is necessitated by prior rejection.

C. CORRECTION OF WORK

1. Any deficiencies identified by the OWNER will be noted for correction by the Contractor in a notification from the OWNER. Correction of such deficiencies shall be in addition to and not in lieu of punch list(s) of deficiencies submitted to the Contractor by the OWNER or prepared by the Contractor. Receipt of any such notification shall not be construed as the OWNER's qualified acceptance of the Work nor shall it waive the OWNER's right to require the Contractor to remedy, at the Contractor's sole expense, any other deficiencies which may not be listed on such notification.
2. In the event that the Contractor receives from the OWNER a notification of faulty or unacceptable Work, the Contractor shall promptly remove from the premises all Work condemned as failing to conform to the requirements of the Contract Documents, whether incorporated in the Work or not. The Contractor shall then promptly replace and re-execute its own Work in accordance with the Contract Documents without change to the time of completion and without expense to the OWNER and shall bear the expense of making good all Work of other contractors destroyed or damaged by such removal or replacement. In addition, the Contractor shall perform all cutting and fitting for other trades necessitated by the Contractor's errors.

3. Should the Contractor refuse to correct faulty or damaged Work, or should the OWNER consider it inadvisable for the Contractor to do so, the OWNER may either (a) authorize another contractor to correct the Work at the Contractor's expense or (b) accept the faulty or damaged Work and obtain from the Contractor a credit, contained in a Change of Contract, representing the diminished value of the Work accepted.
- D. **FINAL INSPECTION AND FINAL PUNCH LIST:** In addition to any punch list(s) prepared by Contractor and any unacceptable Work previously identified by the OWNER, the OWNER shall, prior to Substantial Completion, make a final inspection of all Work and prepare a final punch list ("Final Punch list") of Work that does not conform with the Contract Documents. Contractor shall correct all non-conforming Work identified in the Final Punch list within thirty (30) days after Contractor's receipt of the Final Punch list. Correction of all faulty or unacceptable Work by the Contractor, including, without limitation, correction of all items specified in the Final Punch list, shall be a condition precedent to Final Payment.
- E. **NON-WAIVER OR ACCEPTANCE:** Any inspections or tests conducted by the OWNER shall be for the sole benefit of the OWNER and shall not relieve Contractor of the responsibility of providing quality assurance control measures to assure that the Work strictly complies with the requirements of the Contract Documents. The performance of any inspections or tests, or the omission of any inspections or tests, or a decision not to perform any inspection or test, by the OWNER, any agent, employee or consultant of the OWNER, shall not be a waiver of any of the Contractor's obligations hereunder and shall not be construed as constituting or implying approval or acceptance of the Work or any part thereof. No payment to the Contractor (including Final Payment) or approval or acceptance by the OWNER of any Work shall constitute final acceptance of the Work if it is later discovered that such Work was not performed in accordance with the requirements of the Contract Documents.

Article 9 *Inspection And Use Of Premises*

- A. The OWNER and all persons specified by the OWNER shall have safe access to the Work at all times for inspection purposes. Notwithstanding the foregoing, the OWNER, and its representatives shall not be responsible for, or have control or charge of, any construction means, methods, techniques, sequences or procedures or for safety and security precautions or progress in connection with the Work, nor shall they be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.
- B. The OWNER reserves the right to occupy and use, for itself or any of its affiliates, any portion of the Project and operate any equipment that is part of the Project without constituting acceptance of the Contractor's Work or material involved either in whole or in part, unless the OWNER, in its sole discretion, expressly accepts portions of the Project or pieces of equipment by written notice to the Contractor.
- C. The Contractor shall confine its apparatus, the storage of materials and the operations of its workmen to limits indicated by Laws and directions of the OWNER. The Contractor shall not encumber the Site with its material except for such material as is absolutely necessary for the Contractor to perform the Work without interruption and as approved by the OWNER.
- D. The Contractor shall enforce the instructions of the OWNER regarding signs, advertisement and smoking. No advertising signs, name signs or logos of any sort shall be displayed on the Project site, except those that the OWNER may elect to display and those provided for herein.
- E. Throughout the term of this Contract, and as required by the OWNER, Contractor shall provide the OWNER, its representatives and their employees with access to Contractor's trailer(s), telephone(s) and restroom facility(ies) at the Project Site.

- F. The Contractor shall be responsible for permanently fixed service facilities and systems in use during progress of the Work and shall strictly adhere to the following procedures:
1. Prior to acceptance of the Work by the Owner, the Contractor shall remove and replace any part of the permanent building systems damaged through use during construction.
 2. Temporary filters shall be installed in each of the heating and air conditioning units, return air grilles, and other locations to prevent intrusion of dust, dirt, and debris during construction. Temporary filters shall be removed and replaced with new filters immediately prior to Substantial Completion.
 3. Extra effort shall be maintained to keep the building clean and under no circumstances shall air systems be operated if finishing operations are creating dust in excess of what would be considered normal if the building were occupied.
 4. When the permanent lighting system is used during construction, lamps shall be replaced and shall be new on the date of Substantial Completion.

Article 10 *Protection Of Work And Property; Safety; Existing Utilities*

- A. PROTECTION OF WORK: The Contractor shall continuously maintain adequate protection of all Work from damage due to any cause, including inclement weather, and shall protect all property of the OWNER from damage or loss. The Contractor shall adequately protect improvements within public rights-of-way and property of adjacent land the OWNERS. The Contractor shall protect and secure its Work and materials and the Project against loss by theft or otherwise. The obligations of this Article shall apply, regardless of whether the property in the Contractor's possession was purchased by the OWNER or the Contractor.
1. The Contractor shall be responsible for the entire site of the Project and for its reasonable and necessary protection and security, as required by laws or ordinances governing such conditions, or by custom or sound construction practices, and shall share such responsibilities as may be agreed upon among them, or in the absence of such agreement, as may be directed by the Contract Documents, Owner, or Designer.
 2. The Contractor shall be responsible for any damage to the Owner's property, or that of others, by the Contractor or the Contractor's employees, Subcontractors, sub-subcontractors, or their employees or agents, and shall make good such damages. The Contractor shall be responsible for and pay for any such claims against the Owner.
 3. The Contractor shall protect all landscaping designated to remain in the vicinity of the operations and barricade all walks, roads, and areas as necessary to keep the public away from the construction.
 4. The Contractor shall provide cover and/or protect all portions of the Work and provide all materials necessary to protect the Work whether performed by the Contractor or any of the Subcontractors or sub-subcontractors. Any Work damaged through the lack of proper protection, or from any other cause, shall be repaired or replaced without extra cost to the Owner or extension to the Contract Time.
- B. SAFETY: Contractor shall be responsible for preparing, implementing, maintaining and supervising all safety and security precautions and programs in connection with its Work, the Project and the Site. Contractor shall take all necessary precautions for the safety of its employees and all other persons who may be affected by Contractor's Work. All safety measures and safety programs shall fully comply with Federal, State, and local laws, rules, regulations, and building code requirements relating to the prevention of accidents or injuries to persons on or about the location of the work.
1. The Contractor shall designate a responsible officer or employee as safety inspector, whose duties shall include accident prevention on the Project as well as implementation of the

Contractor's safety measures and safety programs on the Project. The name of the safety inspector shall be made known to the Designer and the Owner at the pre- construction conference.

2. The Contractor shall adhere to the rules, regulations, and interpretations of the North Carolina Department of Labor's Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926 as adopted in 13 NCAC 07F.0201, including 29CFR Part 1910 General Industry Safety and Health Standards applicable to construction) and N.C. Gen. Stat. §95-126 through 155 (Occupational Safety and Health) as well as all revisions and amendments to such standards or statutes as may occur throughout the performance of the Work.
- C. ACCIDENTS: In case of an accident involving an injury to an employee (including any employee of anyone working under Contractor), Contractor shall notify the OWNER within eight (8) hours and shall file a fully detailed accident report as soon as possible and not later than twenty-four (24) hours after such accident. Contractor shall also file promptly such reports as are required by its insurance carrier and such other civil authorities as might govern and simultaneously provide copies to the OWNER.
- D. EMERGENCIES: In an emergency affecting the safety of life or the Work or of adjoining property, the Contractor is hereby permitted to act in its discretion to prevent such threatened loss or injury, and it shall so act without appeal if so authorized or instructed. Any costs incurred by the Contractor because of emergency work shall be determined by agreement of the Parties hereto and confirmed by a Change of Contract.
- E. UTILITIES: The Contractor shall establish and maintain direct and continuous contact with local utilities before commencing any Work. The OWNER will provide the Contractor, for its general information only, records in the OWNER's possessions with regard to the nature and location of known utilities but does not warrant or represent that the information is accurate and complete. The Contractor shall verify the locations of any utilities which may be affected by its operations (and, if any variations are found to exist from the information supplied by the OWNER, the Contractor may be entitled to a Change of Contract for additional time or costs resulting from such deviations). At least fourteen (14) days prior to the anticipated Work, Contractor shall submit in writing to the OWNER and to utility the OWNER's for their review and approval of its plan for 1) performing the Work, and 2) promptly resolving any utility conflicts to avoid delay. No Work in the vicinity of, or which may affect utilities, shall be started until approved by the OWNER and the utilities. The Contractor shall prepare and maintain an updated list of information on all Project-related utilities including company names, addresses, contact persons and types of utility. During the course of the Work, Contractor shall supply, at its own cost, all temporary utilities necessary for performance of the Work. Contractor shall be responsible for connecting to all necessary permanent utilities for the Project and shall file and process all applications for all such permanent utilities on behalf of the OWNER. Hookup fees for such permanent utilities shall be paid by the Contractor.

Article 11 *Hazardous Materials And Pollution Controls*

- A. HAZARDOUS MATERIALS: In the event the Contractor encounters on the site previously unidentified material reasonably believed to be a Hazardous Material which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the OWNER in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the OWNER and Contractor if in fact the material is a Hazardous Material and has not been rendered harmless. The Work in the affected area shall be resumed after abatement of the Hazardous Material, or when it has been rendered harmless, as agreed in writing between the OWNER and Contractor.
- B. POLLUTION CONTROLS: Contractor shall not burn waste without prior written permission from the OWNER. Contractor shall control the generation of dust resulting from the Work and shall undertake such

dust controls as are required by the OWNER. Contractor shall undertake reasonable efforts to minimize the amount of noise and light generated by the Work and the adverse affects of such noise and light on adjacent property the OWNER's and the public. Contractor shall at all times comply with the Laws applicable to the foregoing activities.

Article 12 *Clean-Up*

A. Daily Clean-Up

1. At all times, Contractor shall keep the Site and adjacent property free from accumulation of trash and debris that results from the operations of the Contractor, and its subcontractors. Contractor shall provide for all clean-up and offsite disposal of all such trash and debris.
2. If the Contractor falls to clean up as provided in this Paragraph, the OWNER reserves the right, upon eight (8) hours written notice to the Contractor, to proceed to remove the debris, the cost of which will be charged against the Contractor.

B. Final Clean-Up & Site Restoration

1. Prior to Substantial Completion, the Contractor shall employ experienced persons to make a final clean-up of the Project site or such portions of the Project as the OWNER may designate.
2. At the completion of the Work, Contractor shall remove all trash, waste and debris from the Site as well as its tools, temporary facilities, construction equipment, machinery and surplus materials and shall deliver the site in a ready to use condition.

Article 13 *Construction Progress Schedule*

- A. Not later than thirty (30) days following execution and delivery of the Construction Agreement by Owner to Contractor, the Owner shall deliver to the Contractor a Notice to Proceed. The Notice to Proceed shall state a commencement date on which it is expected that the Contractor will begin the Work to be performed under the Agreement. The Contract Time shall be measured from said specified commencement date. The commencement date stated in the Notice to Proceed shall not be earlier than three (3) days after the Notice to Proceed is served on the Contractor. No Work shall be done prior to the date specified in the Notice to Proceed.
- B. SCHEDULE: Within fourteen (14) days after receipt of the Construction Agreement by the Contractor for signatures, the Contractor shall prepare and submit to the Designer and Owner for review and approval a preliminary progress schedule for the Work pursuant to the requirements stated in the Contract Documents. The Contractor shall prepare and submit a calendarized Critical Path Method ("CPM") schedule (the "Construction Progress Schedule" or "Schedule") to the OWNER within thirty (30) days of the execution of the Contract. The Schedule shall contain a detailed graphic representation of all activities that could affect the progress of the Work, including a schedule of Submittals, shall become a Contract Document and may be revised only with the written consent of the OWNER. The Contractor agrees to comply with the Construction Progress Schedule, as revised as provided herein, and agrees that the Work shall be prosecuted regularly, diligently and without interruption, within the time specified.
- C. THE CONTRACT CONSTRUCTION SCHEDULE IS A CONTRACT DOCUMENT: The Contractor represents that the Contract Construction Schedule has been reviewed in detail, that the Contractor participated in its preparation, that all of the activities which impact, limit, or otherwise affect the time of completion of the Work are shown in the Contract Construction Schedule and that all of the activities of others which impact, limit, or otherwise affect the start, duration, or completion of the Contractor's activities are also shown. The Contractor further represents that the Contractor can and will complete each activity within the time shown for that activity. Time is of the essence with respect to each such activity and Completion Date.

- D. **SCHEDULE UPDATES AND REVISIONS:** The Schedule will be revised, updated and submitted by the Contractor at least the first of each month. However, the OWNER reserves the right to require Contractor to update the Schedule as often as the OWNER deems reasonably necessary. Any revisions to the Schedule shall be accompanied by a written explanation of the reasons for such revisions and no such revision shall be incorporated into the Schedule without the OWNER's written consent. A copy of the Schedule shall be maintained at all times on the Site, and revised and updated copies shall be provided to the OWNER at any time if requested. Failure of the Contractor to deliver an initial Schedule within the time specified above or to deliver timely updates of such Schedule upon request by the OWNER, or as provided for above, may be grounds for the OWNER to withhold progress payments for the work completed until such time as the Schedule(s) are delivered to the OWNER.
- E. **ADDITIONAL WORK TO COMPLY WITH SCHEDULE:** In the event that the Contractor or any of its Subcontractors on their own initiative changes the sequence or duration of any of the construction activities from such sequences or durations as indicated on the Schedule established at the commencement of the Work, the OWNER, unless agreed in writing otherwise, will not be liable for any claims for any direct or indirect costs, delay costs, costs related to loss of efficiency, resequencing of work or extension of time or any other costs which may result from such actions by the Contractor or its Subcontractors. In addition, Contractor shall not be entitled to any change in the terms of this Contract relating to the foregoing changed sequences or durations without the OWNER's prior written approval of such changed sequences or durations. Although Contractor may finish early, Contractor agrees that it has no right to finish early or to file a claim for any alleged delay to its right to finish early. Should the progress or conditions of the Work require Work to be performed after regular hours, or should the Contractor elect to perform Work after regular working hours, the additional cost of performing such Work shall be borne by the Contractor.
- F. The Contractor may be entitled to an extension of the Contract Time (but no increase in the Contract Sum) for delays arising from unforeseen causes beyond the control and without the fault or negligence of the Owner, the Contractor or the Contractor's Subcontractors as follows:
1. Labor disputes and strikes that directly impact the critical path activities of the Contract Construction Schedule;
 2. Acts of God, tornado, fire, hurricane, blizzard, earthquake, typhoon, or flood that damage completed Work or stored materials.
 3. Acts of the public enemy; acts of the State, Federal, or local government in their sovereign capacities.
 4. Abnormal inclement weather as defined below
Force Majeure. Neither Party shall be liable to the other Party for any failure or delay caused by events beyond such Party's control and not due to its own negligence, provided that such Party uses commercially reasonable efforts to resume performance as soon as reasonably practicable. The non-performing Party shall notify the other Party of the force majeure event within twenty-four (24) hours of the onset thereof.
In the event that a force majeure event precluded PROVIDER from performing services and/or providing goods for a period of ten (10) consecutive business days, the COUNTY shall have the right to: (a) procure replacement goods and/or services from an alternative source and/or (b) terminate the Contract or portions(s) of Contract upon written notice to PROVIDER.
- G. If the Contractor submits a construction schedule, progress report, or any other document that indicates or otherwise expresses an intention to achieve completion of the Work prior to any Completion Date required by the Contract Documents or prior to expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.
- H. Should the Contractor fail to start any activity on the start date shown in the Contract Construction Schedule or become delayed, the Contractor shall, without being entitled to any increase in the Contract Price or other compensation, work overtime, increase labor forces or take such other action as may be

necessary or appropriate to complete the activity by the Completion Date shown on the Contract Construction Schedule, or as such Completion Date may have been adjusted.

- I. Should any monthly revision of any Contract Construction Schedule show that the Contractor is behind on any activity, the late completion of which could delay Substantial Completion of the Work, the Owner shall be entitled to withhold from the next Progress Payment due the Contractor an amount not exceeding the amount the Owner would be entitled to in Liquidated Damages, should Substantial Completion be delayed by the same number of days that the Contractor is currently behind schedule. If, subsequently, the Contractor's progress, as shown by any succeeding monthly revision to the Contract Construction Schedule, is such that the anticipated delay no longer exists, the Owner shall pay with the Progress Payment next due to the Contractor such amounts as have been withheld in accordance with this paragraph.
- J. All time limits stated in the Contract Documents are of the essence. The time of beginning, rate of progress, and time of completion are essential conditions of the Contract Documents. If the Contractor refuses or fails to prosecute the Work with such diligence as will ensure its completion pursuant to the Progress Schedule, as modified hereunder, or if the Contractor abandons the Work or if it fails to complete the Work within said time, or if the Contractor fails to maintain the progress of the Work in accordance with the Progress Schedule, the Contractor shall be liable for all direct and indirect damages sustained by the OWNER until all the Work required by the Contract Documents is complete and accepted by the OWNER or for the liquidated damages provided for in the Contract. In the event of a default termination, the Contractor's liability may also include termination for default damages. The OWNER may deduct from subsequent payments due the Contractor under this or any other contract with Contractor or from any sums retained, all or such part of these sums as may be required to pay the aforesaid damages, with the Contractor being responsible for any deficiency which it shall pay the OWNER upon demand.
- K. On any day that the Contractor considers that the Project is delayed by adverse weather conditions, the Contractor shall identify in writing to the Designer and the Owner the adverse weather conditions affecting each activity, the specific nature of the activity affected, the number of hours lost, and the number of and identity (by responsibility or trade) of workers affected and shall obtain from the Designer written recognition of the delay. The time for performance of this Contract includes an allowance for a number of calendar days which may not be suitable for construction Work by reason of adverse weather. The Contract Time will be extended only if the number of calendar days of adverse weather recognized by the Designer exceeds the number of inclement weather days set forth below, and the Contractor demonstrates how this adverse weather impacts activities on the critical path of the Contract Construction Schedule.

<u>Month</u>	<u>Number of Inclement Weather Days</u>
January	15
February	15
March	10
April	10
May	9
June	9
July	9
August	8
September	9
October	9
November	10
December	12

- L. If the Contractor believes that the progress of the Work has been adversely affected by adverse weather recognized by the Designer during a particular month, the Contractor shall submit a written request for extension of time to the Designer. Such a request for time extension of the Contract Time

shall be submitted by the tenth (10th) day of the month following that month in which the adverse weather is encountered. The request shall include, but is not limited to, the following information:

1. Detailed description of weather's effect on scheduled activities and its net effect on the critical path of the Project, and
 2. Weather records from the official weather station nearest the Project site and records of actual observation as contained in daily reports, correspondence, or other documentation.
- M. The Contractor specifically recognizes that a delay by the Contractor in achieving any Completion Date can have the effect of delaying the Substantial Completion of the Project, that such delay in Substantial Completion of the Project will necessarily cause damages, losses, and expenses to the Owner, including, but not limited to and by way of illustration only, increased capitalized costs and interests for the Project, increased and extended Project overhead, Designer's and Consultant's fees, increased costs of construction, increased and extended operation costs of other facilities, and inefficiency and loss of productivity, and that such damages, losses, and expenses may not be readily identifiable or ascertainable at the time they are incurred or at any time. Therefore, and in recognition of these factors and the likelihood that actual damages from his delay will not be readily ascertainable, the Contractor agrees to pay to the Owner, **\$100.00 per calendar day** as **Liquidated Damages** and not as a penalty, the sum identified in the Supplemental Conditions hereto as the Liquidated Damages per Day, for each day by which the failure to meet any Completion Date shown in the Contract Construction Schedule, adjusted in accordance with this Article, delays the Substantial Completion of the Project.

Article 14 Reports And Meetings

- A. The Contractor shall each day prepare and deliver to the OWNER a Weekly Report showing the number of foremen, journeymen mechanics, and other personnel employed at the Project that day, and the location and nature of the Work performed. Concurrently therewith, if requested by the OWNER, the Contractor shall deliver to the OWNER the various Subcontractors' Daily Reports.
- B. Not more than thirty (30) days following execution of the Contract, but prior to commencement of demolition, the Contractor and representatives of all Subcontractors designated by the OWNER shall attend a pre-demolition meeting scheduled by the OWNER. The Contractor shall be represented by its Project Manager, General Superintendents and other persons designated by the OWNER; Subcontractors shall be represented by their supervisory personnel. The purpose of the meeting will be to discuss matters relating to the Project.
- C. Each week during the progress of the Work, the Contractor will conduct a Progress Meeting at a time and place agreed upon by the Contractor and the OWNER, during which the Contractor shall review the progress of the Work relative to the Demolition Progress Schedule and discuss ways of maintaining the progress of the Work. The Contractor shall require Subcontractors who are active on the Project at the time the meeting is held to be present and be represented by a person authorized to commit their company. If requested by the OWNER, the Contractor shall require Subcontractors who are not active on the Project to be present and be represented by a person authorized to commit their company. The Contractor shall keep accurate minutes of each meeting and, if requested by the OWNER shall deliver a signed copy of each set of minutes to the OWNER within seventy-two (72) hours of each meeting. The OWNER shall be entitled to attend and participate in all such Progress Meetings.
- D. By the fifth (5th) day of each month, the Contractor shall submit to the OWNER a written Contract Status Report, which report shall, at a minimum, show, in detail, the progress of the Work relative to the approved Demolition Progress Schedule; a listing of outstanding Submittals, requests for information or proposals upon which the Contractor is awaiting response from the OWNER, or its consultants, and the impact, if any, such Submittals, requests for information or proposals have on the Construction Progress Schedule; the Contract Sum, including additions or deductions arising out of accepted Changes of Contract; and a

listing of pending or outstanding approved and proposed Changes of Contract (Change Order log) and Contractor's claimed cost and/or extension of time resulting there from.

- E. Failure of the Contractor to timely deliver the reports required or requested by the OWNER pursuant to this Article or to schedule and hold the meetings required by this Article shall constitute cause for the withholding of payments by the OWNER.

Article 15 Delays

- A. FORCE MAJEURE AND CLAIMS FOR DELAYS: As defined by paragraph 11 of the Contract.
- B. SUSPENSION OF WORK:
 - 1. Generally – After Work has started, the Contractor shall not suspend Work without written permission of the OWNER. When under suspension, the Work shall be put in proper and satisfactory condition, and properly protected, including as directed by the OWNER. In all cases of suspension, the Work shall not again be resumed until permitted by written order of the OWNER.
 - 2. The owner's right to suspend – the OWNER reserves the right at any stage of the Work, to suspend operations thereon, or upon any part thereof, either for a time named or indefinitely, by giving the Contractor written notice.
 - 3. Extension of time – if the OWNER's rights of suspension are exercised, the OWNER shall grant to the Contractor an extension of time for the performance of the Work equal to the time of such suspension. However, no adjustment shall be made under this Paragraph for any suspension to the extent that (a) performance would have been suspended, delayed or interrupted by any other cause, including the fault or negligence of Contractor; or (b) equitable adjustment in the time for performance of the Work is provided for or excluded under any other provision of this Contract.
 - 4. Adjustment To Contract Sum – if the OWNER suspends the Work pursuant to this Paragraph, and such suspension impacts the critical path costs of the Work for an aggregate of thirty (30) days, then Contractor shall be entitled to extended general condition for each additional day that the Work is so suspended in excess of the thirty (30) days.

Article 16 Minority Business Enterprise Program

The Contractor shall at all times comply with the latest edition of the Guilford County Minority Business Enterprise Policy. All documentation substantiating compliance with the requirements of this program shall be delivered to the Owner as stipulated in the Contract Documents. A copy of the Guilford County Minority Business Enterprise Policy is included in the Project Manual.

Article 17 Measurement Of Quantities

All Work completed under the Contract Documents shall be measured by the Contractor using United States customary units of measurement. The method of measurement and computations to be used in determination of quantities of material furnished and of Work performed under the Contract Documents shall be those methods set forth in the Contract Documents or, if not specifically set forth therein, the method generally recognized as conforming to good engineering practice.

Article 18 Subcontractors

- A. The Contractor shall furnish the OWNER, prior to execution of the Contract, a complete list of all major Subcontractors and Suppliers and such other Subcontractors or Suppliers as may be requested by the OWNER, who are proposed for the execution of the Work (including address, phone number and contact

name for each such Subcontractor and Supplier). At any time, upon request of the OWNER, Contractor shall make available to the OWNER copies of all bids, proposals, contracts, subcontracts or other information concerning the Subcontractors and Suppliers, including financial statements, which may be helpful to the OWNER, or any person or entity providing financing on behalf of the OWNER, in evaluating any of the Subcontractors proposed to perform any part of the Work. Contractor may also be required to make available to the OWNER with respect to the proposed Subcontractors and Suppliers such other proof of their financial stability and experience, lists of completed projects and letters of reference as may be required by the OWNER.

- B. The Contractor shall not assign any portion of this Agreement nor subcontract the Work in its entirety without the prior written consent of the Owner. Except as may be required under terms of the bonds required by the Contract Documents, no funds or sums of money due or to become due to the Contractor under the Contract Documents may be assigned.

Article 19 *Measurements*

Before ordering material or doing Work which is dependent for proper size or installation upon coordination with building conditions, the Contractor shall verify all dimensions and shall be responsible for the correctness of same. No consideration will be given for any claim based on differences between the actual dimensions and those indicated in the Contract Documents. Any discrepancies between the Contract Documents and the existing conditions shall be referred to the Designer for adjustment before any Work affected thereby is begun.

Article 20 *Cutting, Patching And Fitting*

The Contractor shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and fit it to receive or to be received by Work shown in or which can be reasonably implied from the Contract Documents.

Article 21 *Warranties And Guarantees*

- A. The Contractor warrants to the OWNER that all Work furnished under this Contract will be of good quality, free from faults and defects and in strict conformance with the Contract Documents for a period of one (1) year from the date of Substantial Completion of the entire Project or for a longer period if so specified elsewhere in the Contract Document. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. This warranty or any other warranty provided by the Contractor pursuant to the Contract Documents shall not be limited by the provisions of Paragraph 21(B).
- B. The Contractor shall require the warranty contained in Paragraph 21(A) in all subcontracts and shall include the requirement that the OWNER be reimbursed for any unsuitable Work or to other work resulting from such defects. The Contractor agrees, at its expense and without cost to the OWNER as part of its guarantee under this Article 21 to repair or remove or replace, as directed by the OWNER, all Work which proves defective during the warranty period or which falls to conform to the Contract Documents; to repair, remove, and replace, as directed by the OWNER, all unsuitable portions of the Work resulting from or which is incidental to defects in the Work as stated in this Article 21, or which are damaged by the repair of such defects. All repairs, removals and replacements must be commenced upon receipt of written notice from the OWNER at times approved in advance by the OWNER.
- C. The Contractor shall furnish sufficient workers and materials to ensure prompt completion thereof. Should the Contractor fail to proceed in accordance with the provisions of this Article 21, the OWNER, without further notice to the Contractor, may furnish all labor and material necessary for said repairs, or removals and replacements; all costs associated with such repair or replacement work shall be charged to the Contractor.

- D. Upon Substantial Completion of the Project and prior to Final Payment, the Contractor shall prepare, organize, assemble and transmit to the OWNER two (2) complete sets, including one original set, of all written warranties and guarantees of others applicable to the Work or required by the Contract Documents and for all restored surfaces. All warranties and guarantees of others with regard to services or materials shall be made for the benefit of the OWNER and the Contractor and shall be enforceable by either the OWNER or the Contractor. The Contractor shall execute any documents or take such action as may be necessary to ensure that the OWNER receives the benefits thereof. Should the Contractor or a Subcontractor replace any part of the Work, all warranties or guarantees applicable to the component replaced shall begin anew from the date of the OWNER's acceptance of the replacement.
- E. No contract or purchase pertaining to the Project shall allow for waiver of warranties or guarantees.
- F. Nothing contained in this Article 21 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor may have under the Contract
- G. The Contractor's guarantees and warranties under this Article shall not be construed to limit the OWNER's right of recovery for defects in the Contractor's Work or the items provided by the Contractor, whether in warranty, contract or any other applicable legal theory, which may arise under other provisions of the Contract or under law.

Article 22 *Project Record Documents*

- A. The Contractor shall keep one record copy marked "As-Built" of all Specifications, Drawings, Addenda, Modifications, and Submittals at the Project in good order and annotated at least monthly to show all changes made during the construction process. Such monthly annotations and their approval by the Designer shall be a condition precedent to approval by the Designer of each monthly Request for Payment. Said record copy shall be stored at the Project and fully protected from damage by fire or other hazard. This record copy shall be available to the Designer and Owner for inspection at all times and shall be delivered to the Designer for the Owner's purposes prior to the Designer's certifying Substantial Completion of the Work.
- B. The Contractor shall check all sections of the Specifications for specific references to maintaining record drawings and diagrams (the "Project Record Documents"). These references are intended to clarify record documentation for particular items and are not intended to limit requirements generally.
- C. The Contractor shall ensure that each of the Project Record Documents shall be clearly marked "As-Built Drawings" and shall be maintained in good condition and available at all times for inspection by the OWNER. The Contractor shall mark up the most appropriate documents to record significant changes during the construction process and significant details not shown in the original Contract Documents.
- D. The Contractor shall ensure that the information given shall include, but not be limited to, the actual location of the underground utilities and appurtenances, referenced to permanent surface improvements scheduled to remain.
- E. At the completion of the Project, the OWNER will furnish the Contractor with a complete set of current Contract Drawings. The Contractor shall transfer the recorded changes to the Drawings neatly with a permanent line of sufficient weight to clearly show the record changes. The Contractor shall stamp and sign a certification statement on each Drawing and page that the Drawings as submitted are correct and accurately depict the Work as it has been constructed. These drawings (the "As-Built Drawings") shall be submitted to the OWNER prior to acceptance of the Project by THE OWNER and prior to the release of the Contractor's Final Payment.

Article 23 Disputes

- A. Any and all disputes arising hereunder which are not otherwise amicably resolved by mutual agreement shall be resolved by the courts of competent jurisdiction located in the state in which the Project is located.
- B. The presence of claims, disputes or controversies between the Contractor and any other party, including the OWNER, over any matter whatsoever, or legal proceedings arising from such claims, disputes or controversies, shall not relieve the Contractor of its obligation, during the resolution of any such claims, disputes or controversies, to continue to perform its Work properly and timely and to comply with all of the terms and conditions of the Contract.

Article 24 Separate Contracts

It is expressly understood that the Owner may deploy the Owner's own employees or engage other separate prime contractors to perform Work as a part of the Project whose work will be performed simultaneously and sequentially with the performance of the Work by the Contractor. It shall be necessary for the Contractor to coordinate construction activities with such other contractors, particularly with respect to access to work areas, storage of materials, and use of elevators and other common facilities. The Contractor shall diligently and in good faith cooperate with the Owner, the Designer, and all other contractors with respect to such matters and shall regularly and faithfully attend any and all meetings called by the Owner or the Designer with respect to such matters. Any disputes between the Contractor and any other separate prime contractor with respect to such matters shall be resolved in accordance with the claim and dispute resolution procedures in the Agreement.

Article 25 Changes In The Work

- A. Without invalidating the Contract Documents, the Owner may, at any time, or from time to time order additions, deletions, or revisions in the Work. Said additions, deletions, or revisions shall be authorized only by written Change Orders, Construction Change Directives or Field Orders. Upon receipt of a Change Order, Construction Change Directive or Field Order, the Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any change causes an increase or decrease in the Contract Price and/or an extension or shortening of the Contract Time, adjustments shall be made as provided in these Articles.
- B. In order to expedite the Work and avoid or minimize delay in the Work that might affect the Contract Price or Contract Time, the Designer may issue a Change Order in the form of a Construction Change Directive which when signed by the Owner and Designer, directs the Contractor to proceed promptly with the Work involved. Any claim for an adjustment in Contract Price or Time, if not defined in the Construction Change Directive, shall be promptly made in writing in accordance with the procedures defined these Articles.
- C. The Designer may authorize minor changes or alterations in the Work not involving change in the Contract Price or in the Contract Time and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. Such alterations shall not invalidate the Contract Documents nor release the surety. If the Contractor believes that any minor change or alteration authorized by the Designer entitles him to an increase in the Contract Price and/or an extension of Contract Time, he may make a claim therefore as provided in these Articles.
- D. Except in an emergency endangering life or property, no change shall be made by the Contractor except upon prior written Change Order, Directive or Field Order authorizing such Change.
- E. Increases in the Contract Price and/or extensions of the Contract Time for additional Work performed by the Contractor shall only be in accordance with a written Change Order signed by the Owner. The Contractor shall not be entitled to additional time or to additional compensation for any Work performed or material supplied which is claimed to have been authorized or settled by an "oral" change, or by a "constructive" or "implied" change, or by a course of conduct, or by any action or non-action by the Owner,

Designer, or any other persons, or by any means whatsoever other than by a written Change Order for such Work or material signed by the Owner.

- F. Changes in the Work resulting from emergency shall not invalidate the Contract Documents nor release the surety.
- G. Neither the Owner nor the Designer shall be responsible for verbal instructions which have not been confirmed in writing, and in no case shall such instructions be interpreted as permitting a departure from the Contract Documents unless such instruction is confirmed in writing and supported by a proper Change Order, Construction Change Directive or Field Order, whether or not the cost is affected.
- H. The Owner, in its sole discretion, may require that the Contractor notify the Contractor's sureties of any changes affecting the general scope of the work or change in the Contract Price, and that the amount of applicable bonds shall be adjusted accordingly. If this requirement is exercised, the Contractor shall furnish proof of such adjustment to the Designer and the Owner.
 - 1. If this requirement is exercised, the Change Orders shall require written consent of the Contractor's surety. At the time of signing a Change Order, the Contractor shall be required to certify as follows:

"I certify that all sureties have been notified that my contract has been altered by the amount of this Change Order, and that a copy of the approved Change Order will be mailed to all sureties upon its receipt by me."
 - 2. If this requirement is exercised, no payment to the Contractor on account of any Change Order shall become due or payable until written evidence of the surety's consent to the Change Order has been furnished to the Designer and to the Owner, and the furnishing of such written consent is a condition precedent to such payment.
- I. The Contractor shall support all requests for Change Orders with a detailed cost breakdown showing cost of materials, labor, equipment, transportation, other items, Contractor's overhead and profit, and total cost, in accordance with methods defined in this Article, and, if the request seeks an extension of the Contract Time, with a time-related diagram which demonstrates specifically why an increase in construction time is needed.
- J. When a request for a Change Order involves a Subcontractor, the Contractor shall provide quotation from same on Subcontractor's letterhead. The Subcontractor's quote shall list materials, equipment, and labor separately, and show overhead and profit in the manner provided in paragraph 14.8.

Article 26 Changes Of The Contract Price

- A. The Contract Price constitutes the total compensation payable to the Contractor for performing all Work under the Contract Documents. All duties, responsibilities, and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order.
- B. Any claim for an adjustment in the Contract Price shall be in writing and written notice of any event, action, or non-action which may become the basis of a claim shall be delivered to the Owner and the Designer within three (3) days of the occurrence, or the beginning of the occurrence, of any such event, action or non-action giving rise to the claim. Such written notice is a condition precedent to the making of a claim, and such notice shall describe the basis of the potential claim with reasonable detail and clarity.
- C. A claim shall be made in writing and shall be delivered to the Designer and the Owner no later than fourteen (14) days after such notice. The claim shall describe in detail the basis for the claim, with specific reference to any provisions of the Contract Documents, by paragraph, drawing number, or other specific identification, and shall state the amount claimed and how it is calculated. If the Contractor, at the time the claim is made, is unable to state the amount claimed with accuracy, the Contractor shall so state and provide the estimated amount and the basis on which the amount is to be calculated. At the earliest date

practicable, but in no event more than thirty (30) days after Contractor's notice of claim, the Contractor shall supplement the claim with an accurate statement of the amount claimed and how it has been calculated. The Contractor shall provide, in writing, in support of the claim all such explanations, arguments, data, receipts, expert opinions, or other documents or information as the Contractor deems appropriate to be considered in support of the claim. A claim may properly be rejected by the Owner by reason of the Contractor's failure to submit adequate or accurate documentation or information, except that within seven (7) days after being given notice that the claim has been rejected on this basis, the Contractor may submit additional documentation or information. No claim for a change of the Contract Price shall be considered or granted (except solely at the discretion of the Owner) unless a claim is so made, nor shall the Contractor be entitled to any increase in the Contract Price unless the Contractor has given notice and made such a written claim within the times required. The Owner shall decide, after obtaining the advice of the Designer, whether an increase in Contract Price is warranted, and the amount of such increase shall be determined as provided in paragraphs below. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

- D. The Owner shall advise the Contractor of its decision with respect to the claim within fourteen (14) days of its receipt, or of the receipt of additional documentation or information if the absence of such has previously been the basis of rejection of the claim; provided, however, that if, in its sole discretion, the Owner deems that review or consideration of any part of the claim or any matter related thereto by its governing Board is necessary or appropriate, it shall so advise the Contractor and shall provide its decision to the Contractor within seven (7) days after such Board consideration, review or action. Any claim on which the Owner has not provided its decision to the Contractor within the applicable time period shall be deemed denied.
- E. If the Contractor is not satisfied with the decision of the Owner, the Contractor may within seven (7) days of receipt of the Owner's decision initiate the mediation process as described in Appendix A to the General Conditions of the Contract for Construction.
- F. In determining the amount of a Contract Price adjustment, the parties shall apply the following methods, as appropriate:
 - 1. Change in Work: The Owner and Contractor shall negotiate in good faith and attempt to agree upon the value of any change (extra or decrease) in Work prior to the issuance of a Change Order covering said Work. Such Change Order shall set forth the corresponding adjustment to the Contract Price. In the event the Owner and the Contractor are unable to agree, the Owner shall grant an equitable adjustment in the Contract Price.
 - 2. Emergency Work: In the event of emergency endangering life or property, the Contractor may be directed by the Designer to proceed on a time and material basis, whereupon the Contractor shall so proceed and keep accurately, in such form as may be required by the Designer, a correct account of costs together with all proper invoices, payrolls, and supporting data therefore.
- G. Where the Contract Price is to be adjusted, the following limitations shall apply in determining the amount of adjustment:
 - 1. In the case of extra or emergency work, the Contract Price shall not be increased by more than the reasonable, actual, and documented net cost of the extra or emergency work plus ten percent (10%) of such net cost on Work performed by the Contractor and five percent (5%) thereof on any subcontracted Work for overhead and profit combined.
 - 2. In the case of a decrease in Work, the Contract Price shall not be decreased by less than the net cost of the deleted Work plus five percent (5%) of such direct net cost for profit and overhead.
 - 3. The term 'net cost' as used herein shall include, as applicable, and shall be limited to, all direct labor, direct material, direct equipment, labor burden, sales taxes, shipping and handling charges, permits and fees, and insurance and bond premium adjustments, if any, attributable to the change. All other items of cost shall be considered as overhead and covered by the percentages allowed in sections A and B of this paragraph.

4. The Contractor shall provide worksheets or tabulations describing the method by which the direct net cost was calculated, and shall provide all data needed to support the calculation of the direct net cost, all in a form acceptable to the Owner.

- H. Where the Contract Price is to be adjusted by negotiation, the Owner may authorize and designate the Designer to negotiate with the Contractor on behalf of the Owner; provided, however, any agreement reached between the Contractor and Designer shall be subject to approval by the Owner.

Article 27 Unforeseen Conditions

Should the Contractor encounter unforeseen conditions at the Project site materially differing from those shown on the Drawings or indicated in the Specifications or differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement, the Contractor shall immediately, and in no event more than three days later, give notice to the Owner of such conditions before they are disturbed. The Owner and the Designer shall thereupon promptly investigate the conditions and if they find that they materially differ from those shown on the Drawings or indicated in the Specifications, they shall at once make such changes in the Drawings and/or Specifications as they may find necessary. Any increase or decrease in the Contract Price resulting from such changes shall be adjusted in the manner provided herein for adjustments as to extra and/or additional Work and changes. However, neither the Owner nor the Designer shall be liable or responsible for additional work, costs, or changes to the Work that could have been reasonably determined from any reports, surveys, and analyses made available for the Contractor's review or that could have been discovered by the Contractor through the performance of its obligations pursuant to the Contract Documents.

Article 28 Correction Of Work Before Final Payment

- A. The Owner has the authority to stop or suspend work, and the Designer has the authority to order Work removed or to order corrections of defective Work or Work not in compliance with the Contract Documents where such action may be necessary to ensure successful completion of the Work.
- B. Any work, materials, fabricated items, or other parts of the Work which have been found by the Designer to be defective or not in accordance with the Contract Documents shall be condemned and shall be removed from the Project by the Contractor, and immediately replaced by new Work in accordance with the Contract Documents at no additional cost to the Owner. Work or property of the Owner or others damaged or destroyed by virtue of such condemned Work shall be made good at the expense of the Contractor.
- C. Correction of condemned Work described above shall be commenced by the Contractor within twenty-four (24) hours after notice from the Designer or the Owner and shall be pursued to completion. Should the Contractor fail to proceed reasonably with the above- mentioned corrections, the Owner may, three (3) days after the notice specified in the preceding sentence, proceed with correction, paying the cost, including costs of uncovering such condemned Work, of such corrections from amounts due or to become due to the Contractor.
- D. Condemned Work removed shall be the property of the Contractor and shall be removed from the Project by him within ten (10) days after notice to remove it, and if not then removed, thereafter may be disposed of by the Owner without compensation to the Contractor and the cost of such disposal shall be deducted from amounts due or to become due to the Contractor.
- E. Should the cost of correction of the Work and, if applicable, disposal of the condemned Work by the Owner exceed amounts due or to become due the Contractor, then the Contractor and the Contractor's sureties shall be liable for and shall pay to the Owner the amount of such excess.

Article 29 Correction Of Work After Substantial Completion; Warranties And Guaranties

- A. Neither the final certificate, Final Payment, occupation of the premises by the Owner, nor any provision of the Contract Documents, nor any other act or instrument of the Owner or the Designer shall relieve the Contractor from responsibility for negligence, defective material or workmanship, or failure to comply with the Contract Documents.
- B. The Contractor shall, at the Contractor's sole cost and expense, make all necessary repairs, replacements, and corrections of any nature or description, interior or exterior, structural or non-structural, that shall become necessary by reason of defective workmanship or materials which appear within a period of one (1) year from the date of Substantial Completion; provided, however that notwithstanding the preceding, if any longer guarantee period is specified for any particular materials or workmanship under the Contract Documents, or under any subcontract, or in connection with any manufactured unit which is installed in the Project, or under the laws of the State of North Carolina, the longer guarantee period shall govern.
- C. If, within any guarantee period, repairs or changes are required in connection with the Work, which are rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents, the Contractor shall, promptly upon receipt of notice from the Designer and without expense to the Owner:
 - 1. Completely repair or replace the Work so that it conforms to the Contract Documents;
 - 2. Correct all defects therein;
 - 3. Make good all damage which, in the opinion of the Designer, is the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents; and
 - 4. Make good any Work or material, or any equipment or contents disturbed in fulfilling any such guarantee.
- D. If, in fulfilling the requirements of the Contract Documents or of any guarantee embraced therein or required thereby, the Contractor disturbs any work, facility, premises, or construction belonging to the Owner, the Contractor shall restore such disturbed work to a condition satisfactory to the Owner, and shall guarantee such restored work to the same extent as if it were Work under the Contract Documents.
- E. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Owner may have the defects corrected, and the Contractor and the Contractor's sureties shall be liable for all expenses incurred. "Promptly" is defined as within twenty-four (24) hours for systems necessary to normal operation of the building and within seventy-two (72) hours for all other items. All special guarantees applicable to definite parts of the Work that may be shown in or required by Contract Documents shall be subject to the terms of this paragraph during the first year of the life of such special guarantee. Manufacturer's standard guarantees or warranties which do not comply with the time limit specified herein shall be extended by the Contractor automatically without further action on the part of the Owner or the Designer.
- F. In the eleventh calendar month after the date of Substantial Completion, and at the request of the Owner, the Contractor, the Owner and the Designer shall make an inspection of the Work for the purpose of identifying defective workmanship and/or materials. If the Contractor, having been requested to do so by the Owner, fails to participate in such inspection, the Contractor shall be conclusively bound by any decision or ruling by the Designer as to any defective workmanship or material and as to the Contractor's responsibility for its repair or replacement.

Article 30 *Owners Right To Do Work*

- A. If, during the progress of the Work or during any period of guarantee, the Contractor fails to prosecute the Work properly or to perform any provision of the Contract Documents, the Owner, after three (3) days written notice to the Contractor from the Designer, or from the Owner after Final Payment, may perform or have performed that portion of the Work and may deduct the cost thereof from any amounts due or to become due the Contractor. Notwithstanding any action by the Owner under this paragraph, all warranties and bonds given or to be given by the Contractor shall remain in effect or shall be given by the Contractor.

- B. Should the cost of such action by the Owner exceed the amount due or to become due the Contractor, the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of such excess.

Article 31 *Partial Payments*

- A. Payments shall follow Guilford County Policy per Guilford County's general Terms and Conditions.
- B. Schedule of Values – before the first application for payment ("Application for Payment"), the Contractor shall submit to the OWNER a schedule of values ("Schedule of Values") allocating the Contract Sum to the various portions of the Work and to the portions of the Work performed by each Subcontractor. The Schedule of Values shall contain single line item entries, identified for each major item of Work and each subcontracted item of Work, referenced to the number and titles of the specification section applicable for each item. The Schedule of Values shall be prepared on a form as set forth by the OWNER or on another form approved by the OWNER.
- C. Schedule of Allowances – a Schedule of Allowances shall be submitted with all pay requests in accordance with SECTION 01210-ALLOWANCES, SCHEDULE OF ALLOWANCES.
- D. Within thirty (30) days after his initial receipt of the Construction Agreement for signatures, the Contractor shall submit to the Designer a Schedule of Values. The Schedule of Values shall indicate the value of the Work, including applicable overhead and profit, for each Division and section of the Project Specifications. The Designer and Owner shall be provided with the Contractor's estimate papers, Subcontractor agreements, supplier quotes, or other documents substantiating these values if so requested in writing by the Designer. The Contractor shall provide the requested documentation within seven (7) days after receipt of the Designer's written request. The Schedule of Values shall be subject to approval by the Owner, and if the Owner and the Contractor cannot agree upon the Schedule of Values, the Designer shall prepare it, and the Schedule of Values as prepared by the Designer shall be binding on the Owner and the Contractor. No Request for Payment shall be certified by the Designer until the Designer has issued approval of said Schedule of Values.
- E. Not later than the fifth (5th) day of each calendar month the Contractor shall submit to the Designer a Request for Payment for Work done during the previous calendar month. The Request for Payment shall be in form of AIA Document G702 (latest edition) and shall show substantially the value of Work done (including the value of material delivered to the Project or stored by the Contractor at another site, subject to the conditions hereinafter set forth) during the previous calendar month, and shall sum up the financial status of the Work with the following information:
- Total Contract Price, including any adjustment thereto made pursuant to the Contract Documents
 - Value of Work completed and materials properly stored to date
 - Less amount retained
 - Less previous payments
 - Current amount due
 - Balance remaining
- F. The Contractor, upon request of the Designer, shall substantiate the request with invoices, vouchers, payrolls, or other evidence.
- G. When payment is requested or made on an account of stored materials, such materials must be stored on the Owner's property at such places and in such a manner as may be designated by the Designer. However, in the sole discretion of the Owner, with permission in writing from the Designer and Owner and under such circumstances as may be determined by the Owner, such materials may be stored in a bonded warehouse. The location and conditions for storage of such materials away from the Owner's property in a bonded warehouse shall be within the sole discretion of the Owner. Requests for Payment on account of stored materials shall be accompanied by paid invoices, bills of sale, warehouse receipts, or other documentary evidence establishing Owner's title to such materials, evidence that the stored materials are insured against loss and damage, and such other documentation as required by the

Designer. Responsibility for the quantity, quality, and condition of such stored materials, whether stored on the Owner's property or away from the Owner's property, shall remain with the Contractor regardless of ownership or title. No payment shall be made on account of materials stored in a bonded warehouse unless the Contractor has acquired written permission from the Designer for such storage of materials and has complied with all conditions set forth in such permission regarding such storage of materials in a bonded warehouse.

- H. Any Request for Payment received by the Designer on or before the fifth (5th) of the calendar month shall be certified for payment or returned for re-submission to the Contractor on or before the fifteenth (15th) of the calendar month. The Designer's certification shall be for the amount which was requested or that which the Designer has decided was justly due, and shall state in writing to the Contractor and Owner the reasons for withholding payment of any or all of the amount requested.
- I. The Designer may fail to certify all or part of any payment requested for any of the following reasons:
 - 1. Defective Work not corrected.
 - 2. Suits, actions, or claims of any character filed against the Contractor, or due to the operations of the Contractor, or information or notice that a suit, action, or claim will be filed or has been made.
 - 3. Information or notice that a Subcontractor or a supplier has not received payment.
 - 4. The balance unpaid of the Contract Price is insufficient to complete the Work in the judgment of the Designer or Owner.
 - 5. Damage to the Owner or another contractor.
 - 6. Inability of the Contractor to meet a Completion Date, including an anticipated failure to meet a Completion Date entitling the Owner to withhold anticipated Liquidated Damages.
 - 7. Failure to furnish Submittal as required by the Contract Documents on a timely basis in accordance with the Submittal Register.
 - 8. Such other reason as to the Designer may appear prudent, proper, or equitable. When grounds for withholding certification have been corrected, the Designer shall so certify to the Owner and the Owner shall make any payment due with respect to such certification as a part of his next payment after such certification.
- J. No certificate issued or progress payment made shall constitute an acceptance of the Work or any part thereof.
- K. The amount certified by the Designer for payment shall be ninety percent (90%) of the value of Work completed and materials stored since the Designer's last certification as shown on the Request for Payment, less any amounts not certified, and this amount shall be paid by the Owner on or before the last business day of the month, but payment shall not be past due until not paid within fifteen (15) days thereafter.

Article 32 *Final Payment*

- A. If the Work of the Contractor is limited to demolition, pilings, caissons and/or structural steel, the remaining unpaid balance of the Contractor's Contract Price, less a sum equal to five-tenths percent (0.5%) of the Contract Price, shall be paid within sixty days following receipt of the following documents, all of which must be received before payment shall become due: (i) request for payment from the Contractor; (ii) receipt of consent from the Contractor's surety to the payment; and (iii) approval or certification from the Designer that the work performed by the Contractor is acceptable and in accordance with the Contract Documents.
- B. Except as set forth in paragraph A above, within forty five days after Substantial Completion of the Project, the remaining unpaid balance of the Contract Price shall be paid to the Contractor, less an amount equal to two and one-half times the value of punch list work or other work remaining to be completed or corrected, as reasonably estimated by the Owner.
- C. Upon Substantial Completion, the Designer shall prepare and submit to the Contractor a deficiency list identifying all portions of the Work which are known by the Designer at that time to be incomplete or defective. Within thirty (30) days of receipt of this deficiency list, the Contractor shall complete and

correct all items on that list along with all other Work required to achieve Final Completion of the Work. At any time prior to completion of the period of warranty, the Designer may submit to the Contractor a supplemental deficiency list, in which case the Contractor shall complete or correct any and all new items identified on the Supplemental deficiency list within the time period stipulated.

- D. Final Payment of any remaining balance of the Contract Price shall not be due to the Contractor until the Contractor achieves Final Completion of the Project.
- E. The making and acceptance of Final Payment shall constitute a waiver of all claims by the Owner except:
 - 1. Claims arising from unsettled liens or claims against the Contractor.
 - 2. Defective Work or materials appearing after Final Payment.
 - 3. Failure of the Contractor to perform the Work in accordance with the Contract Documents.
 - 4. As conditioned in the Performance Bond.
 - 5. Claims made prior to Final Payment which remain unsettled.
 - 6. Claims for recovery of overpayment based upon incorrect measurement, estimate, or certificate.
- F. The making and acceptance of Final Payment shall constitute a waiver of all claims by the Contractor except those claims previously made in writing and not finally resolved.
- G. The Designer shall not authorize Final Payment until all of the Work under the Contract Documents has been certified by the Designer as completed, proper and suitable for occupancy and use, and has been approved by all federal, state and local agencies having jurisdiction.
- H. The final Request for Payment shall be identified on its face as such and shall be presented by the Contractor to the Designer within thirty (30) days of completion of the Work. Final payment of the retained amount due the Contractor shall be made by the Owner within thirty (30) days after the later of (i) full and Final Completion of all Work required by the Contract Documents, and certification of such Work; (ii) submission of the affidavits of other documentation required by Article 33; (iii) submission by the Contractor of a Request for Payment identified on its face as final and including the Designer's certification.

Article 33 Contractor, Subcontractor And Supplier Affidavit

- A. The Contractor shall comply with the applicable laws and regulations of the state of North Carolina regarding the liability of the OWNER for mechanics' liens.
- B. The Final Payment due the Contractor on account of the Contract Documents shall not become due until the Contractor has furnished to the Owner through the Designer: (A) an affidavit by the Contractor signed, sworn, and notarized to the effect that all payments for materials, services, or for any other reason in connection with the Work or performance of the Contract Documents have been satisfied and that no claims or liens exist against the Contractor in connection with the same; (B) affidavits from each Subcontractor and supplier signed, sworn, and notarized to the effect that (i) each such Subcontractor or supplier has been paid in full by the Contractor for all Work performed and/or materials supplied by him in connection with the Project, and (ii) that all payments for materials, services, and for any other reason in connection with the subcontract or supply contract have been satisfied and that no claims or liens exist against the Subcontractor or supplier in connection therewith; and (C) the written consent of the Contractor's sureties to Final Payment. In the event that the Contractor cannot obtain an affidavit, as required above, from any Subcontractor or supplier, the Contractor shall state in the Contractor's affidavit that no claims or liens exist against such Subcontractor or supplier to the best of the Contractor's knowledge, and that if any appear afterwards, the Contractor shall save the Owner harmless for all costs and expenses, including attorneys fees, on account thereof.

Article 34 Contractor And Subcontractor Relationships

- A. RELATIONS: The Contractor agrees to bind every Subcontractor and every Subcontractor shall agree to be bound by the terms of the Contract Documents.

- B. Within thirty (30) days after initial receipt of the Construction Agreement for signatures the Contractor shall submit to the Designer and Owner for acceptance a current list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for any and all portions of the Work. The Contractor shall provide this list at this time even if the Contractor was required to submit a list of proposed Subcontractors with the Contractor's bid. The Designer shall promptly reply to the Contractor in writing stating whether or not the Owner or the Designer, after due investigation, has objection to any such proposed person or entity or if it needs additional information to evaluate the persons on the list. Failure of the Designer to reply within ten (10) days after the Contractor has furnished all required information shall constitute notice of no objection.
- C. The Contractor shall not contract with any such proposed person or entity to whom the Owner or the Designer has made reasonable objection. If the Designer or Owner has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner and the Designer have no reasonable objection. The Contractor shall make no substitution for any Subcontractor, person, or entity previously allowed without first notifying the Designer and Owner in writing and no substitution may be made if the Owner or Designer makes a reasonable objection to such substitution.
- D. The Contractor agrees that the terms of the Contract Documents, including all portions thereof, shall apply to all Subcontractors of the Contractor as if they were the Contractor, and that the Subcontractors of the Contractor shall, by means of their subcontracts, be bound by all the terms of the Contract Documents including, but not limited to, Article 26 of these General Conditions.
- E. Payments to Subcontractors shall be made in accordance with the provisions of N.C. Gen.Stat. §143-134.1.

Article 35 Use Of Premises

- A. The Contractor shall confine apparatus, the storage of materials, the operations of workers, and the disposal of material to limits indicated by law, ordinances, permits, and directions of the Designer, if any.
- B. The Contractor shall not load or permit any part of the Work to be loaded with a weight that will endanger its safety, intended performance, or configuration.
- C. The Contractor shall enforce all of the Designer's instructions, including, but not limited to, those regarding signs, advertisements, fires, eating, and smoking.

Article 36 Dispute Resolution

- A. The laws of the State of North Carolina shall apply to the interpretation and enforcement of this Agreement. Any and all suits or actions to enforce, interpret, or seek damages with respect to any provision of, or the performance or nonperformance of, this Agreement shall be brought in the General Court of Justice of North Carolina sitting in Guilford County, North Carolina, and it is agreed by the parties that no other court shall have jurisdiction or venue with respect to such suits or actions. Appendix A shall be a part of the Contract Documents. Prior to initiating an action under this Article, any party to this Agreement shall initiate the mediation process as provided in Appendix A to these General Conditions of the Contract for Construction.
- B. Any person or firm that expressly or impliedly agrees to perform labor or services or to provide material, supplies, equipment, work, performance or payment bonds, insurance or indemnification for the construction of the Project or the Work shall be deemed a party to this Agreement solely for the purpose of this Article. The Contractor, by means of its subcontracts, shall specifically require its Subcontractors to be bound by this Article.

Article 37 Taxes

- A. The Contractor is to include in the Contract Price and shall pay all taxes assessed by any authority on the Work or the labor and materials used therein. The Contractor shall maintain all tax records during the life of the Project and furnish the Owner with a complete listing of all taxes paid by taxing authority, invoice number, date, amount, etc. in a form acceptable to the Owner. The Contractor is required to maintain a file showing taxes paid on the Project for three (3) years after Final Payment or turn said documents over to the Owner for his files.
- B. The following is a list of requirements to be followed by the Contractor in maintaining proper records and reporting the North Carolina Sales and Use Tax and Local Sales and Use Tax. The Contractor shall comply fully with the requirements outlined below, in order that the Owner may recover the amount of the tax permitted under the law.
 - 1. It shall be the Contractor's responsibility to furnish the Owner documentary evidence showing the materials used and sales and use tax paid by the Contractor and each of his Subcontractors. Such evidence shall be transmitted to the Owner with each pay request irregardless of whether taxes were paid in that period.
 - 2. The documentary evidence shall consist of a certified statement by the Contractor and each of the Contractor's Subcontractors individually, showing total purchases of materials from each separate vendor and total sales and use taxes paid to each vendor. Certified statements must show the invoice number, or numbers, covered, and inclusive dates of such invoices.
 - 3. Materials used from Contractor's or Subcontractor's warehouse stock shall be shown in a certified statement at warehouse stock prices.
 - 4. The Contractor shall not be required to certify the Subcontractor's statements.

Article 38 *Operation Of Owner Facilities*

The Contractor agrees that all Work done under the Contract Documents shall be carried on in such a manner so as to ensure the regular and continuous operation of the adjoining or adjacent facilities. The Contractor further agrees that the sequence of operations under the Contract Documents shall be scheduled and carried out so as to ensure said regular and continuous operation. The Contractor shall not close any areas of construction until so authorized by the Designer. The Contractor shall control operations to assure the least inconvenience to the public. Under all circumstances, safety shall be the most important consideration.

Article 39 *Third Party Beneficiary Clause*

It is specifically agreed between the parties executing the Agreement that, hereof, and that exception only, the Contract Documents and the provisions therein are not intended to make the public, or any member thereof, a third-party beneficiary of the Agreement, or to authorize anyone not a party to the Contract Documents to maintain a suit for personal injuries or property damage pursuant to the terms of provisions of the Contract Documents.

Article 40 *Termination By The Owner For Cause*

If the Contractor fails to begin or complete the Work under the Contract Documents within the time specified, or fails to perform the Work with sufficient labor and equipment or with sufficient materials to insure the prompt completion of said Work, or shall perform the Work unsuitably or shall discontinue the prosecution of the Work for three (3) days, or if the Contractor shall become insolvent, be declared bankrupt, commit any act of bankruptcy or insolvency, allow any final judgment to stand against the Contractor or its affiliated companies unsatisfied for a period of forty-eight (48) hours, make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the Work in an acceptable manner, the Owner may give notice in writing to the Contractor and the Contractor's sureties of such delay, neglect, or default, specifying the same, and if the Contractor within a period of three (3) days after such notice shall not proceed in good faith and with reasonable speed to correct such delay, neglect, or default in accordance with such notice, the Owner shall have full power and authority, to the extent permitted by law, without violating the Contract Documents, to take the prosecution of the Work out of the hands of the Contractor, to appropriate or use any or all materials and equipment at the Project as may be suitable and acceptable, and may enter into an agreement for the completion of the Work or pursue such other methods as in the Owner's opinion shall be necessary or

appropriate for the completion of the Work in an acceptable manner. All costs and charges incurred by the Owner in proceeding in accordance with the preceding sentence, including attorney's fees, and all costs incurred by the Owner in completing the Work shall be deducted from any money due or which becomes due the Contractor. If such costs and expenses incurred by the Owner shall be less than the sum which would have been payable under Contract Documents if it had been completed by the Contractor, then the Contractor shall be entitled to receive the difference, but if such costs and expenses shall exceed the sum which would have been payable under the Contract Documents, the Contractor and the Contractor's surety shall be liable to the Owner for and shall pay to the Owner the amount of such excess.

Article 41 *Termination Or Suspension By The Owner For Convenience*

- A. The Owner may, without cause, order the Contractor to terminate, suspend, delay, or interrupt the Work in whole or in part for such period of time as the Owner may determine.
- B. If the Contractor is subsequently ordered by the Owner to resume the Work, any cost or expenses to which the Contractor may be entitled by reason of the suspension, delay, or interruption shall be recovered by means of a Change Order and the Contract Construction Schedule shall be adjusted.
- C. The Owner shall terminate the Work or portion thereof by written notice when the Contractor is prevented from proceeding with the Work as a direct result of an executive order of the President with respect to the prosecution of war or in the interest of national defense.
- D. In the event of termination by the Owner under this Article, the Contractor shall be entitled to receive the reasonable and documented direct costs incurred prior to termination, including the cost of materials purchased for the Work which purchases cannot be canceled or which material cannot reasonably be used by the Contractor on other work, and the cost of closing down the Project in a safe and efficient manner, plus ten percent (10%) thereof for overhead and profit, subject to the following conditions:
 - 1. When the Contract is terminated before completion of all items of Work, payment shall be made for the actual number of units or items of Work completed at the applicable contract prices, or as mutually agreed for items of Work partially complete. If a mutual agreement cannot be reached, the Owner shall have the authority to make such equitable adjustment as it deems warranted and the Final
 - 2. Payment shall be made accordingly.
 - 3. Reimbursement for organization of any Work and moving equipment to and from the job shall be considered when not otherwise provided for in the Contract Documents where the volume of completed Work is too small to compensate the Contractor for those expenses under unit prices. If a mutual agreement cannot be reached, the Owner will have the authority to make such equitable adjustments as it deems warranted and the Final Payment will be made accordingly.
 - 4. Materials obtained by the Contractor for the Work that have been inspected and accepted by the Designer and that are not incorporated in the Work shall, at the request of the Contractor, be purchased from the Contractor at the Contractor's actual cost as shown by receipted bills and actual costs records at such points of delivery as may be determined by the Owner.
 - 5. No payment shall be made by Owner to Contractor except as herein above provided. No claim for loss of anticipated profits shall be considered or allowed.
 - 6. Termination of the Contract shall not relieve the Contractor of his responsibilities for any completed portion of the Work nor shall it relieve his sureties of their obligation for and concerning any just claims arising out of the Work performed.

The Contractor shall not be entitled to any other compensation, including compensation for lost profit, lost opportunity, or any other direct or consequential cost, loss, or damage.

END OF DOCUMENT 00821

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DOCUMENT 00938 – REQUEST FOR INFORMATION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Specified in This Section:
 - 1. This Section specifies administrative and procedural requirements for disposition of Request for Information (RFI's) during the Construction Phase.
- B. Related Work Specified Elsewhere:
 - 1. General Conditions Of The Contract (00820)

1.2 SUBMITTALS

- A. Submit each request (RFI) on the form included in this Section, and in accordance with procedures stipulated below.
 - 1. Identify the issue, fabrication, or installation method in question in each request. Include related Specification Section and Drawing numbers. Provide complete documentation stating the issue. Include copies of Product Data, Drawings, descriptions of products, fabrication details, installation procedures or other information to help clarify the Contractor's request.
- B. Submit only one request on each form.
- C. Email RFI form to mwilliams@borum-wade.com

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 CONDITIONS

- A. Submit any such requests to the Engineer as early as possible so as to cause no delay in the progress of the Work and enough in advance to allow the Engineer reasonable and adequate time to provide a full and proper response. If the information being requested from the Engineer can not be reasonably determined by information contained within the Contract Documents, and/or original construction documentation, then the Contractor shall reimburse the Engineer for time spent researching the RFI at the Engineer's current hourly rate.

3.2 ENGINEERS ACTION:

- A. After receipt of the request for information, the Engineer may request additional information or documentation necessary for evaluation of the request. After receipt and review of all pertinent information and documentation, the Engineer will issue his response. Such response may be written form or drawings as the Engineer shall determine.

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DOCUMENT 00938 – REQUEST FOR INFORMATION (RFI)

Contractor RFI #:

Date:

Submitted By:

Attention: Matt Williams, P.E.
Borum, Wade & Associates, P.A.
621 Eugene Court, Suite 100
Greensboro, NC 27401

Subject:

Specification Reference:

Drawing Sheet Number/Detail Reference:

INFORMATION REQUESTED

Signed: _____

RESPONSE

By:

Date:

- ☐ See Drawings/Specifications:
- ☐ See Addenda to be issued:
- ☐ Other
- ☐ See attachments

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SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Hagan-Stone Park Paving Repair Phase 2
 - 1. Project Location: 5920 Hagan Stone Park
 - 2. Owner: County of Guilford, North Carolina.
 - 3. County Department: Facilities and Parks
- B. Engineer Identification: Borum, Wade & Associates, P.A.

- 1.3 Scope of work: Providing services for the removal and replacement of existing pavement and subgrade. The contractor is to provide all required labor, tools, material and equipment to repair the pavement at the Cedar Road at Hagan Stone Park. Areas to be repaired are indicated on the plans. The main area to be repaired are the park entrance and part of the main access road going through the Park. One lane of road is to remain open at all times, the park will not be closed to visitors. Provide traffic control as required to allow safe access to and from the park during normal business hours. The successful contractor shall submit a phasing plan that accommodates daily and weekly use of the Park Road once he starts on site construction.

1.4 CONTRACT

- A. This work will be under a General construction contract.

1.5 WORK COMPLETION

- A. The Work shall be complete within (60 Calendar days) the contracted number of days, commencing from the date of the Owner's written notice to proceed

1.6 USE OF PREMISES

- A. General: Contractor shall have use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises will be limited to work described in the Project Manual and Drawings.

1.7 WORK UNDER OTHER CONTRACTS

- A. Separate Contract: In the event the Owner awards separate contracts for performance of certain construction operations at Project site. Those operations may be conducted simultaneously with work under this Contract.

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- B. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "Master Format" numbering system.
 - 1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections applicable to the Contract Documents.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

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SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances required ***when certain items are identified in the Contract Documents as allowances.***
 - 1. Allowances are established in lieu of additional requirements and to defer selection of actual materials, equipment, and demolition method to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost allowances.
 - 3. Quantity allowances.
 - 4. Contingency allowances.
 - 5. Testing and inspecting allowances.
- C. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
 - 2. Division 1 Section "Unit Prices" for procedures for using unit prices.
 - 3. Division 1 Section "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.
 - 4. Divisions 2 through 16 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

- A. Fourteen (14) days after award of the Contract, advise Architect of the date when final selection and purchase of each materials, equipment, and demolition method described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain submittals for each allowance for use in making final materials and or demolition method selections. Include recommendations that are relevant to performing the Work.
- C. Purchase materials, equipment and demolition method selected from the designated supplier.

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1.4 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 actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 LUMP-SUM, UNIT-COST, AND QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.7 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.8 TESTING AND INSPECTING ALLOWANCES

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.
- C. Costs of services not required by the Contract Documents are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

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1.9 UNUSED MATERIALS

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 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.

3.3 SCHEDULE OF ALLOWANCES

- A. In the event that allowances are issued, a schedule of Allowances shall be submitted with all pay requests to include Allowance No., Allowance Description as specified in relevant Division Section and as shown on Drawings. The project allowance shall be \$15,000 for the Phase 2 base bid and \$15,000 for the alternate.

END OF SECTION 01210

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SECTION 01221

MEASUREMENT AND PAYMENT (UNIT PRICE)

PART 1 GENERAL

1.1 DESCRIPTION

- A. The items listed starting with Article 1.5 of this Section refer to and are the same pay items listed in the Bid Form and constitute all pay items for completing the Work. No direct or separate payment will be made for providing, CONTRACTOR's field offices, layout surveys, project signs, sanitary requirements, testing, safety provisions and safety devices, submittals and record drawings, water supplies, power and fuel, traffic maintenance, removal of waste, security, coordination with OWNER's operations, information technology (including hardware, software, and services) required during construction, bonds, insurance, or other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents. Compensation for all services, items, materials, and equipment shall be included in prices stipulated for the unit price pay items listed in this Section and included in the Contract.
- B. Each unit price shall include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

1.2 ENGINEER'S ESTIMATE OF QUANTITIES

- A. ENGINEER's estimated quantities for items of Unit Price Work, as included in the Contract, are approximate only and are included solely for purpose of comparing Bids and pricing. OWNER does not expressly or by implication agree that nature of materials encountered below the ground surface or actual quantities of material encountered or required will correspond with the quantities included in the Contract at the time of award and reserves right to increase or decrease quantities or to eliminate quantities as OWNER may deem necessary. Unless indicated otherwise in the Supplementary Conditions, CONTRACTOR or OWNER will not be entitled to adjustment in price of Unit Price Work items as a result of change in estimated quantity and agree to accept the unit prices accepted in the Bid as complete and total compensation for additions caused by changes or alterations in the Unit Price Work directed by OWNER.

1.3 ADJUSTMENT OF UNIT PRICES FOR INCREASE OR DECREASE OF ESTIMATED QUANTITIES

- A. Increases or decreases in the quantity of an item of Unit Price Work will be determined by comparing total payable quantity of Unit Price Work with ENGINEER's estimated quantity indicated in the Contract Documents.
- B. Provisions, if any, regarding adjustment of unit prices due to variations in actual quantities from the estimated quantities awarded with the Contract, are in the Supplementary Conditions.

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1. ENGINEER's review for possible unit price cost adjustment, when provision for such adjustment is indicated in the Supplementary Conditions, will be at a time ENGINEER deems reasonable and proper.
2. Payment for Unit Price Work item that has an as awarded computed total value of less than the percent (indicated in the Supplementary Conditions) of the sum of the as awarded total Contract Price will be made at the unit price in the Contract, regardless of an increase or decrease in quantity.

1.4 RELATED PROVISIONS

- A. Payments to CONTRACTOR: Refer to General Conditions and Supplementary Conditions, under Section 00820 and Section 00821
- B. Changes in Contract Price: Refer to General Conditions, Supplementary Conditions, and Section 01 26 00, Contract Modification Procedures.

1.5 BID ITEMS

- A. Bid item measurement and payment are specified in the appropriate Sections.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULES

- A. Schedule of payment items listed below, following the "End of Section" designation, are part of this Specification section.
 1. Table 01221 Measurement and Payment Item Schedule.

END OF SECTION

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Table 01221

Sect. No.	Description	Unit
00820	General Conditions of the Contract	LS
01210	Allowances	LS
01310	Project Coordination	LS
01450	Quality Control/Quality Assurance	LS
01500	Temporary Facilities	LS
01740	Final Cleaning	LS
01781	Project Closeout	LS
01788	Warranties	LS
024100	Unsuitable Soil Remove Offsite	CY
024100	Remove Demo Asphalt Offsite	LS
312333	Replace Unsuitable Soils From Offsite	CY
312333	Remove, Remediate, Replace Ex. Subgrade Stone	SY
312333	Remove, Excess Soil From Site	CY
321123	Aggregate Base Course	TN
321216	Asphalt Paving	SY
321312	Concrete Paving	SF
321313	Restriping Pavement	LS
321313	Speed Bump	LS
01450	Contractor Required Testing	LS

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SECTION 01230

ALTERNATES

PART 1 – GENERAL

1.1 SUMMARY

- A. Section includes: Alternates to be submitted to Guilford County with Proposal.
 - 1. Submission procedures.
 - 2. Documentation of changes to Contract Sum/Price and Contract Time.
- B. Related Documents: The Contract Documents, as defined in Section 011004 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.2 DEFINITIONS

- A. Alternate: The net amount to be added to or deducted from the Base Proposal Price for work identified in Schedule of Alternates.

1.3 SUBMISSION REQUIREMENTS

- A. Extent of Alternates:
 - 1. Determine the full extent of Work affected by proposed Alternates.
 - 2. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
 - a. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.
- B. Submission Form: Complete Schedule of Alternates below and attach to Proposal.
 - 1. Substitutions are permitted unless prohibited by a relevant specification section for that product or material. Submit a request for substitution for any manufacturer not named in accordance with Section 016000 - Product Requirements.
- C. Schedule: The Alternates consist of the items included, or attached and incorporated by reference in Section B, The Contract, B. 1500 Attachments. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate.
 - 1. Alternates describe environmental requirements.

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2. Conform to Contract Documents for requirements for performance, appearance, workmanship and materials not modified under the Alternate Bids.

1.4 SELECTION AND AWARD OF ALTERNATES

- A. Acceptance or Rejection: Alternates quoted on Schedule of Alternates and attached to Proposal will be reviewed and accepted or rejected at Guilford County's option. None, any, or all Alternates may be accepted or rejected by Guilford County.
- B. Accepted Alternates will be identified in the Contract.
- C. Some Alternates and respective pricing will survive the Contract and will remain valid for the period stated in the Schedule of Alternates below.

SCHEDULE OF ALTERNATES

- A. Alternate Number 1: State the amount to be added to or deducted from the Base Proposal Price if in lieu of the subgrade preparation and paving of a portion of Dogwood Drive from Cedar Road toward the campground as indicated on the plans. This Alternate will remain valid until the end of the work on the Phase 2 base bid.

Add: _____ dollars, or Deduct: _____ dollars.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

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SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

- A. Work Included In This Section:
 - 1. This section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections Specified Elsewhere:
 - 1. Allowances (01210)

1.2 CHANGE OF CONTRACT PROPOSAL REQUEST (CCPR):

- A. Prior to incorporation in a Change Order each proposed change in the Work, adjustment to the Contract Sum, or adjustment to the Contract Time will be identified as a Change of Contract Proposal Request (CCPR) each of which will be assigned by the Engineer.
- B. Change proposal requests are for pricing only. Do not consider them instruction either to stop work in progress or to execute the proposed change.
- C. Proposals shall be submitted to the Engineer in accordance with Document 00821, Article 16-CHANGE OF CONTRACT.
- D. At the time of signing a Change Order, the Contractor shall notify his Surety that the Contract Sum has been changed by the amount of this Change Order and he shall furnish his Surety with a copy of the approved Change order.
- E. Change Proposal Request Format:
 - 1. Use the format included at the end of this Section for submittal of CCPR's.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

SEE (CCPR) FORMAT NEXT PAGE

END OF SECTION 01250

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SECTION 01250 CHANGE OF CONTRACT PROPOSAL REQUEST FORM (CCPR)

(a) Materials (Provide itemized breakdown)	\$ _____	
(b) Rent of Equipment (list separately) all rates not in excess of those prevailing in locality of the project.	\$ _____	
Sub-Total (1) [a + b]		\$ _____
(c) Labor (Provide itemized breakdown)	\$ _____	
Sub-Total (2) [subtotal 1 + c]		\$ _____
(d) Overhead & Profit (10% x Sub-Total for additive changes, 0% for deductive changes)	\$ _____	
Sub-Total (3) [subtotal 2 + d]		\$ _____
(e) Sub-Contract Work (if applicable, same breakdown as shown above)	\$ _____	
(f) Contractor's Overhead and Profit on Sub-Bid (5% for additive changes, 0% for deductive changes)	\$ _____	
Sub-Total (4) [e + f]		\$ _____
(g) Insurance (Workmen's Compensation, Social Security or as otherwise Required and/or specified)	\$ _____	
Sub-Total (5) [based on c]		\$ _____
(h) Guarantee Bond (on Sub-Total 3 or 4 as applicable)	\$ _____	
Total		\$ _____

Extension of Time Requested: _____ calendar days*

*Attach detailed justification.

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SECTION 01310 - PROJECT COORDINATION

PART I - GENERAL

1.1 DESCRIPTION OF WORK:

A. Work Specified In This Section:

1. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - a) Coordination.
 - b) Administrative and supervisory personnel.

B. Related Work Specified Elsewhere:

1. Project Meetings(01315)
2. Submittals(01330)

1.2 COORDINATION:

A. The Contractor shall:

1. Schedule the work of all sub-contractors; maintain a progress schedule for all sub-contractors for this project; notify the Architect of any changes in the progress schedule; and be responsible for providing adequate notice to all sub-contractors to insure efficient continuity of all phases of the project work.
2. Hold meetings with the various major sub-contractors as required to coordinate work and provide work progress reports.
3. The Contractor shall provide for scheduling of all testing as required by this contract. Such testing for each item shall be indicated on the construction schedule.
4. The Contractor shall coordinate the securing of all final certificates of inspection, the Certificate of Occupancy, and other inspections that may be required by authorities having jurisdiction over the Work. He shall deliver same to the Architect upon completion of the Work.

1.3 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General:

1. The Contractor shall Appoint a single representative, i.e. Project Manager, fluent in the English language, to be the single contact person with the Owner and/or Architect. The Project Manager shall have experience on at least two projects of similar scope, size and complexity.
2. The Contractor shall be responsible for supervising and expediting the project work with an on-site superintendent in accordance with Document 00821, Article 5 paragraph F.

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- 3 . In addition to the Project superintendent, the Contractor shall give his superintendent enough support staff that his ongoing presence can be maintained on site so that errands to secure materials etc. will be carried out by others and others will receive deliveries to site.
4. The on site project superintendent shall have a minimum of five (5) years experience in facilities similar in scope to this project.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01310

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SECTION 01315 – PROJECT MEETINGS

PART I - GENERAL

1.1 DESCRIPTION OF WORK:

A. Work Included This Section:

1. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
 - a. Pre-Consturction Conference.
 - b. Coordination Meetings.
 - c. Progress Meetings.

B. Related Work Specified Elsewhere:

1. ProjectCoordination (01310)
2. Progress Schedules (01325)

1.2 PRE-CONSTRUCTION CONFERENCE

- A. A pre-construction conference shall be scheduled by the Engineer and held at the Project site or other convenient location after execution of the Agreement or Notice To Proceed, whichever comes first, and prior to commencement of construction activities.

B. Attendees:

1. The Owner, Engineer, the Contractor(s), and its superintendent(s) shall each be represented at the conference by persons authorized to conclude matters relating to the Work.

C. Agenda:

1. Discuss items of significance that could affect progress including such topics as:
 - a. Work sequencing.
 - b. Safety.
 - c. Security.
 - d. Tentative Progress Schedule.
 - e. Designation of responsible personnel.
 - f. Procedures for processing CCPR's and Change orders.
 - g. Procedures for processing Applications for Payment.
 - h. Submittals.
 - i. Use of the premises.
 - j. Staging areas.
 - k. Housekeeping.

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1.3 COORDINATION MEETINGS

- A. The Contractor shall conduct project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special Pre-installation meetings.
- B. Bi-Weekly Progress Meetings
 - 1. To enable orderly review of progress during construction and to provide for systematic discussion of problems, project meetings shall be held throughout the construction period.
 - 2. The Contractor and his superintendent shall attend and participate the monthly project meetings.
 - 3. The Owner will conduct the meetings and AE will compile minutes of each meeting and will distribute copies. The Contractor(s) shall distribute such other copies as required. The Contractor shall assign the same person to represent the Contractor at project progress meetings throughout the construction period.
 - 4. Schedule Updating: Revise and update the construction schedule after each progress meeting where revisions to the schedule have been made or recognized, including all approved CCPR'S.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01315

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SECTION 01330 - SUBMITTALS

PART 1-GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included This Section:

1. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
 - a. Submittal schedule.
 - b. [Construction Method Description](#).

B. Administrative Submittals:

1. Refer to Division- I and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - a. Permits.
 - b. Applications for payment.
 - c. Performance and payment bonds.
 - d. Insurance certificates.

1.2 SUBMITTAL PROCEDURES

A. Submittal Preparation:

1. Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
2. Include the following information on the label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name, phone number and address of subcontractor.
 - h. Number and title of appropriate Specification Section.
3. As a result of the Contractor's review, the Contractor shall indicate that the result of his review was:
 - a. "Reviewed and Approved"
 - b. "Reviewed and Disapproved"
 - c. "Reviewed - Revise and Resubmit"
 - d. "Reviewed - Approved As Noted"

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- B. If appropriate, and/or permitted by the Contract Documents, the Contractor may stamp the Submittal information "Received for Record Purposes only", if no review of the material by the Contractor is required by the Contract Documents.
- C. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
- D. Submittal Review by Contractor:
 - 1. The Contractor is required to review each submittal, including, but not limited to, demolition method description and similar submittals.
 - 2. Submittals on items, or materials, that are not specified or indicated on the drawings will be considered substitutions. and as such, must comply with provisions of Section 01631 - Product Substitutions, of this Project Manual.
 - 3. Following the Contractor review of the submittal, the Contractor will place a "review stamp" on each copy of each submittal, and sign, date and indicate action taken in conformance with the "Submittal Preparation" sub-section of this Section. The same information indicated on the Contractor's review stamp will also be indicated on the "Submittal Transmittal" form included with this Section.
 - 4. By approving and submitting demolition method descriptions and similar submittals, the Contractor represents that he has determined, or will do so, the suitability of, and has checked and coordinated the information contained within such submittals, with the requirements of the Work and the Contract Documents.
 - 5. The responsibility for coordinating the Shop Drawings, including technical data, capability (warranted and implied), etc. shall be the sole responsibility of the Contractor. The coordination between subcontractor and/or materials supplier shall be the responsibility of each Contractor/Prime Contractor. The Project Coordinator, as defined in the Specifications, shall be responsible to supervise this activity.
 - 6. Submittals that do not comply with provisions of this sub-section will be returned not reviewed, not logged and will be considered non-responsive.
- D. Partial Submittals:
 - 1. Partial or incomplete submittals are not acceptable. Any submittal received by the Engineer that does not contain all portions required by each Section of the Specification, will be returned not reviewed, not logged and will be considered non-responsive.
 - 2. Exceptions will be considered on a case by case basis, such as on multi-level, or multi phased projects. Requests for exceptions must be submitted in writing by the Contractor for evaluation and response, a minimum of 30 days prior to the submittal date indicated on the Contractor's Approved/updated Submittal Schedule.

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E. Submittal Review by Engineer:

1. The Engineer will review each of the Contractor's submittals one initial time, and, should resubmittal be required, one additional time to verify that the reason(s) for re-submittal have been addressed by the Contractor and corrections made. Any review required by the Engineer other than the two (2) indicated above, will be considered additional scope of work for the Engineer, and the Contractor shall reimburse the Owner for all costs incurred, including the cost of the Engineer's services made necessary to review such additional re-submittals.

1.3 SUBMITTALS

A. General

1. Each submittal shall be complete with a "Submittal Data" sheet completely filled out with all requested information including the Contractor's stamp. A sample "Submittal Data" sheet is included at the end of this section.
2. All submittals shall be dated and shall contain the project name; description or names of equipment; materials or equipment which are to be installed, reference to the Section of Specifications where it is specified and Drawing number where shown.
3. The use of Contract Documents for submittal of shop drawings is prohibited.

1.6 MATERIAL SAFETY AND DATA SHEETS (MSDS)

A. Provide MSDS sheets as follows:

1. One set to keep on site at all times.
2. Send one set the OWNER as required by Article 18 of the Guilford County's General Terms and Conditions.
3. One set to be submitted for final close-out documents. See Section 01700-Project closeout for more information.
3. Do not forward MSDS to the Engineer for Review or distribution.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 GENERAL:

- A. Contractor shall provide one certification form for each item submitted. All certification forms not properly signed shall be returned stamped Rejected.

SEE LAST PAGE FOR CONTRACTOR'S CERTIFICATION FORM

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CONTRACTOR'S CERTIFICATION FORM

NAME OF PROJECT: Hagan-Stone Park Paving Repair Phase 2

PROJECT NUMBER:

OWNER: County of Guilford

ENGINEER: Borum, Wade & Associates, P.A.

SPECIFICATION DIV. NO. _____

SPECIFICATION PARA. NO. _____

DRAWING REFERENCE: _____

OTHER: _____

CONTRACTOR'S CERTIFICATION

I certify that I have checked this submittal for accuracy, dimensional conformance, completeness and compliance with the requirements of the Contract Documents, and it has been coordinated with the work of this contract and the work of other contractors as applicable. No deviations are included unless specifically noted and listed in separate correspondence.

Contractor

Date

END OF SECTION 01330

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SECTION 01352 - GENERAL PROJECT PROCEDURES

PART 1-GENERAL

1.1 DESCRIPTION OF WORK:

A. Work Specified In This Section:

1. This Section specifies requirements for general project procedures.

1.2 BURNING ON SITE

- A.** Open fire, for any purpose, will not be permitted within the building enclosure or on the project site.

1.3 CLEANLINESS DURING CONSTRUCTION

- A.** Maintain the site of the Project free of debris, scattered materials, and equipment.
- B.** Remove all construction equipment, scaffolding, barricades, tools, surplus materials, etc. no longer required at the site. Remove all debris from building and grounds, and in general do all sweeping, brushing, cleaning, polishing, dusting, etc, required to present project in completely finished state. Refer to various sections of specifications for specific cleanup requirements.
- C.** Provide refuse containers located so as to be easily accessible to all workmen at the site. These containers shall be for the deposit of garbage, refuse from meals, and other trash which might attract vermin. Containers shall have properly fitting lids which shall be maintained normally closed. Containers shall be emptied regularly, and their contents removed from the site. No open accumulation of refuse will be permitted.
- D.** Provide walk-off mats for all personnel designed to pick-up dust and construction particles at all transfer points going between construction and non-construction areas.

1.4 CONSTRUCTION DOCUMENTS

- B.** Additional Drawings and/or Specifications may be obtained at a Cost of reproduction and handling for plans and specifications shall be paid by the Contractor.

1.5 SITE SECURITY

- A.** The employment by the Contractor of his own security forces, should he deem it necessary, shall be at the Contractor's option.

1.6 USE OF CONSTRUCTION CHEMICALS AND MISCELLANEOUS FUME PRODUCING MATERIALS

- A.** Contractor shall take precautions as necessary to prevent migration of noxious, irritating or hazardous fumes and gases. Provide fresh air ventilation as required to work safely in confined areas.

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1.7 APPROPRIATE DRESS

- A. While on Owner's property, construction personnel shall wear pants, shirts, shoes, and required safety equipment at all times. The Owner reserves the right to direct the Contractor to immediately eject any person violating this requirement from the property.

1.8 DELIVERIES:

- A. All deliveries shall be addressed to the Contractor at the job site.

1.9 MUD AND DUST FROM MOVEMENT OF VEHICLES:

- A. The Contractor shall not allow mud, earth-droppings and dust to accumulate for more than one day before removing such from paved areas. At no time shall any accumulation be allowed.
- B. The measures to be used to prevent littering the pavement shall include, but are not limited to the following:
 - 1. Maintain dust control.
 - 2. Sweeping and washing paved areas as required.
 - 3. Picking-up droppings as they occur.

1.10 FIREARMS AND ILLEGAL DRUGS:

- A. At no time shall any firearms (with or without permit) or illegal drugs be allowed on the project site.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01352

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SECTION 01421 - REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General:
 - 1. Definitions contained in this Section are in addition to those include in the Conditions of the Contract.
- B. Indicated:
 - 1. The term "indicated" refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help the reader locate the reference; no limitation on location is intended.
- C. Directed:
 - 1. Terms such as "directed," "requested," "authorized," "selected," "approved," and "permitted" mean "directed by the Engineer," "requested by the Engineer", and similar phrases.
- D. Approve:
 - 1. The term "approve" and "approved," where used in conjunction with the Engineer's action on the Contractor's submittals, applications, and requests, is limited to the Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- E. Satisfactory:
 - 1. The words "satisfactory", submitted", "reported", and similar words and phrases shall be presumed to be followed by "to the Engineer."
- F. Equal To:
 - 1. "Equal To", "Or Engineer Approved Equal", and "Or Approved Equal" shall mean products by manufacturers other than those described or listed in the Contract Documents which the Contractor has submitted for substitution prior to bid and have been approved for use by the Engineer in Addenda issued prior to execution of the Contract.
- G. Regulations:
 - 1. The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- H. Furnish:
 - 1. The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- I. Install:
 - 1. The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, fabrication, placing, anchoring, connecting, applying, working to dimension, fmishing, curing, protecting, adjust

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and test except where otherwise specified, cleaning, and similar operations."

- J. Provide:
 - 1. The term "provide" means "to furnish and install, complete and ready for the intended use or operation."
- K. Installer:
 - 1. An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - 2. The term "experienced," when used with the term "Installer," means having a minimum of five previous projects similar in size and scope to this Project, being familiar with the requirements indicated, and having complied with requirements of the authority having jurisdiction.
- L. Trades:
 - 1. Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades persons of the corresponding generic name.
- M. Assignment Specialist:
 - 1. Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
 - 2. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- N. Project Site:
 - 1. Project site is the location of the project.
- O. Contract Limits:
 - 1. Contract Limits is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Contract Limit is shown on the Drawings and may not be identical with the description of the Project Site.
- P. Testing Agencies:
 - 1. A "testing agency" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

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1.2 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. Specification Content:

1. This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - a. **Abbreviated Language:** Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
 - b. **Streamlined Language:** The Specifications generally use the imperative mode and streamlined language. Requirements expressed in the imperative mode are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
2. The words "shall be" are implied where a colon (☺) is used within a sentence or phrase.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards:

1. Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates:

1. Comply with the standard in effect as of the date of the Contract Documents.

C. Conflicting Requirements:

1. Where compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels, the Contractor shall refer requirements that are different but apparently equal, and uncertainties to the Engineer for a decision before proceeding.
2. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum acceptable. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Engineer for a decision before proceeding.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 0142

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SECTION 01450 - QUALITY CONTROL/QUALITY ASSURANCE

PART 1-GENERAL

1.1 DESCRIPTION OF WORK:

A. Work Specified In This Section:

1. This Section specifies administrative and procedural requirements for quality control/assurance services.
2. Quality assurance services, by the Contractor, include inspections and tests and related actions including reports, performed by Independent Testing Laboratories (ITL) to verify compliance with requirements specified or indicated.
3. Inspections, tests and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
4. Specific quality control requirements for individual construction activities are specified in the Sections for those activities.
5. Requirements for the Contractor to provide quality control services required by the Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 QUALITY ASSURANCE:

A. Qualification for Service Agencies:

1. An Independent Testing Laboratory (IT'L) which specializes in the types of inspections and tests to be performed and which is acceptable to the Owner and the Engineer will be engaged by the Owner.

1.3 RESPONSIBILITIES:

A. Contractor Responsibilities:

1. Quality control is the sole responsibility of the Contractor, and shall cover the activities of the General Contractor, his subcontractors, and their suppliers as required to assure compliance with the Contract Documents that constitute the contract between the Contractor and the Owner. The Contractor shall submit a proposed quality control plan at the pre-construction meeting, indicating the volume of test and test frequencies. The Engineer will review the submitted Contractor's quality control program prior to construction.

B. Coordination:

1. The Contractor shall cooperate with the ITL performing required tests and similar services and provide equipment, access, or other means required by the ITL to facilitate performance of their services. Notify the ITL sufficiently in advance of operations to permit assignment of personnel.

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D. Duties of the ITL:

1. The ITL engaged to perform sampling and testing of materials specified in the Specifications shall cooperate with the Engineer and Contractor in performance of its duties, and shall provide qualified personnel to perform required tests.
2. The ITL shall immediately notify the Engineer, Owner and Contractor of irregularities or deficiencies observed in the Work during performance of its services.
3. The ITL shall not perform any duties of the Contractor.

1.4 SUBMITTALS:

- A. The ITL shall submit a certified written report of each test or similar service, to the Contractor. The Contractor shall, submit a certified written report of each inspection, test or similar service as noted below..
- B. The ITL shall send copies of test and inspection reports to the following parties:
 1. 2 copies to the Owner or his Representative.
 2. 2 copies to the General Contractor.
 3. 1 copy to the Engineer.
- C. The Contractor shall be responsible for notifying the Owner, Engineer, Engineer, and ITL when the source of any material is changed after the original tests have been made.
- D. If, in the opinion of the ITL, any of the work of the Contractor is not satisfactory, the Contractor shall make all tests that the Engineer deem available to determine its proper construction in conformance with the Contract Documents.
- E. Retesting is the responsibility of the Contractor when initial tests indicate work does not comply with the requirements of the Contra Documents.

PART 2 - PRODUCTS (Not Applicable).

PART 3 – EXECUTION (Not Applicable).

END OF SECTION 01450

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SECTION 01500 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. Work Specified In This Section:

1. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

1.2 QUALITY ASSURANCE

A. Regulations:

1. Comply with industry standards and applicable laws and regulations of authorities having jurisdiction.

B. Electrical Service:

1. Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70) and all regulatory state agencies.

1.3 PROJECT CONDITIONS

A. Conditions of Use:

1. Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures.
2. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

A. Sanitary Facilities:

1. Provide and maintain in a neat and sanitary condition chemical type toilet Facilities which comply with the requirements and regulations of the Department of Health or of other bodies having jurisdiction. These facilities shall be available to all workers on the job.

B. Drainage:

1. Keep excavations, pits, trenches, footings, and floors free from water to protect all work and to afford satisfactory working conditions. Provide any temporary ditches, sumps, pumps, or drains necessary for this purpose.

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- C. Offices:
 - 1. Provide an office facility as required at the site which shall be large enough for the Contractor's use, for use as a coordination office, and for the Engineer's and Owner's use.
- D. Water Service:
 - 1. Provide, protect, and maintain a system of temporary water service.
- E. Light and Power Service:
 - 1. Make all arrangements and pay all charges to provide, protect, and maintain a system of temporary light and power in a safe operating condition and in compliance with applicable State requirements.
 - 2. Service shall be minimum 200 amp, 110-220 volt, and single phase, properly grounded in accordance with NEC requirements.
- G. Barricades, Warning Signs and Lights:
 - 1. Comply with standards and code requirements for erection of structurally adequate barricades. Provide warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- H. Construction Fence:
 - 1. Provide a suitable construction fence around work area (entire site), located so as to permit sufficient area for storage of materials and conduct of work by all trades.
 - 2. Materials and methods of fence construction shall be adequate to provide for the safety and security of the project site and shall be the Contractor's responsibility to select; however as a minimum standard, fence shall be chain link type, minimum six feet high, consisting of 9 gauge galvanized wire fabric supported on galvanized posts set firmly in the ground at 10 feet o.c. horizontally, maximum.
 - 3. Provide gates as required.
 - 4. No barbed wire will be permitted.
 - 5. Remove and relocate fence when it interferes with the work of any trade or interfere with the use of the new addition when occupied.
 - 6. Keep gates closed at all times and locked during non-working hours.
- I. Temporary Parking:
 - 1. A location for parking of construction personnel vehicles or the Contractor's company vehicles shall be determined at the pre-construction meeting.
- J. Temporary Storage:
 - 1. Only the areas as directed by the Owner may be used for storing materials including stockpiling topsoil.
 - 2. At the Owner's option, any stored materials including stockpiled soil in violation of this requirement will be removed at the Contractor's expense.
- K. Payment of Utility Bills:
 - 1. By the Contractor.

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2.2 DUST AND PARTICULATE CONTROL:

- A. The project site shall be completely contained
- B. Debris removal from the construction site shall be in accordance with requirements of Governing Authorities.

2.8 PROJECT SITE SIGN

- A. Project signs on this project will be as approved by the Owner and as approved by local zoning jurisdiction.
- B. No other exterior signage may be placed unless approved by the Owner or required by law.
- C. The Contractor shall provide temporary directional signage around construction areas which block normal pedestrian or vehicular traffic.

PART 3 – EXECUTION

3.1 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion.

END OF SECTION 01500

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SECTION 01526

MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope:
 - 1. CONTRACTOR shall keep one lane of traffic ways open for passage of traffic and pedestrians during the Work, unless otherwise approved by owner, traffic way, or right-of-way, as applicable.
 - 2. Unless otherwise shown or indicated in the Contract Documents, maintenance and protection of traffic shall be in accordance with MUTCD, Manual of Uniform Traffic Control Devices.
- B. Coordination:
 - 1. Coordinate with owner, as applicable, for maintenance and protection of traffic requirements.
 - 2. Give required advance notice to fire departments, police departments, and other emergency services as applicable of proposed construction operations.
 - 3. Give reasonable notice to owners or tenants of private property who may be affected by construction operations. Give such notice not less than 3 days prior to when such property will or may be affected by construction operations.

1.2 SUBMITTALS

- A. Informational Submittals: Submit the following:
 - 1. Procedure Submittals: Detailed plan, procedures, and sequencing for maintaining and protecting traffic in accordance with the Contract Documents and requirements of authorities having jurisdiction. Include in the submittal the following:
 - a. Traffic staging plan, and construction sequencing as applicable to maintenance and protection of traffic.
 - b. Product data, including manufacturer's catalog information and specifications, for temporary signage, temporary signals, temporary illumination devices, and other products to be utilized in maintaining and protecting traffic.
 - c. Indication of number and types of personnel dedicated to maintaining and protecting traffic during construction.

1.3 MEASUREMENT AND PAYMENT

- A. Traffic maintenance and control will be considered incidental to other items being paid for under the contract.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment used for maintenance and protection of traffic shall comply with the reference specification indicated in Paragraph 1.1.A.3 of this Section.

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PART 3 EXECUTION

3.1 GENERAL PROVISIONS

- A. When required to cross, obstruct or temporarily close a street or traffic way, provide and maintain suitable bridges, detours, or other acceptable temporary expedient for the accommodation of traffic. Closings shall be for shortest duration practical, and passage shall be restored immediately after completion of filling and temporary paving or bridging.
- B. Provide signs, signals, barricades, flares, lights and other equipment, service, and personnel required to regulate and protect all traffic and warn of hazards. Such Work shall comply with requirements of OWNER and authorities having jurisdiction at the Site. Remove temporary equipment and facilities when no longer required, and restore grounds to original or to specified conditions, as applicable.
- C. Hydrants, valves, fire alarm boxes, postal boxes and delivery service boxes, and other facilities that may require access during construction shall be kept accessible for use.

3.2 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals required to direct and maintain an orderly flow of traffic in areas under CONTRACTOR's control, and areas affected by construction operations.
- B. Provide traffic control and directional signs, mounted on temporary barriers or standard posts, at the following locations:
 - 1. Each change of direction of a roadway and at each crossroad.
 - 2. Detours and areas of hazard.
 - 3. Parking areas.
 - 4. Traffic entrance to and exit from each construction area.

3.3 TRAFFIC CONTROL PERSONNEL

- A. When construction operations encroach on traffic lanes, furnish qualified and suitably-equipped traffic control personnel as required for regulating traffic and in accordance with requirements of authorities having jurisdiction. Traffic control personnel shall use appropriate flags or mobile signs.

3.4 FLARES AND LIGHTS

- A. During periods of low visibility provide flares and lights for the following:
 - 1. To clearly delineate traffic lanes, to guide traffic, and to warn of hazardous areas.
 - 2. For use by traffic control personnel directing traffic.
- B. Provide adequate illumination of critical traffic and parking areas.

3.5 PARKING CONTROL

- A. Control all CONTRACTOR-related vehicular parking at the Site to preclude interfering with: traffic and parking, access by emergency vehicles, OWNER's operations, and construction

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operations. Provide temporary parking facilities for the public, as required because of construction or operations.

- B. Control parking of construction and private vehicles at the Site as follows:
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads, and in non-designated areas.
 - 3. Construction vehicles shall possess current vehicle registration.
 - 4. Private vehicles shall park only in designated areas.

3.6 HAUL ROUTES

- A. Consult with authorities having jurisdiction to establish thoroughfares that will be used as haul routes and Site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to expedite traffic flow, and to minimize interference with normal traffic.

3.7 REMOVAL

- A. Maintain and protect traffic throughout the Project. Provide maintenance and protection of traffic measures at the Site until no longer required due to the progress of the Work. When no longer required, completely remove maintenance and protection of traffic measures and restore the Site to pre-construction condition or to condition required by the Contract Documents, as applicable.

END OF SECTION

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SECTION 01740 - FINAL CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Included This Section:
 - 1. This Section specifies administrative and procedural requirements for final cleaning at Substantial Completion.
- B. Special cleaning requirements for specific elements of the Work are included in appropriate Sections of Division 2.
- C. Environmental Requirements:
 - 1. Conduct cleaning and waste disposal operations in compliance with all laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - 2. Burning or burying of debris, rubbish or other waste material on the premises shall not be permitted.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General:
 - 1. Employ experienced workers or cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a professional building cleaning and maintenance program. Comply with manufacturer's instructions.
 - 2. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion for the entire Project or a portion of the Project:
 - a. Clean the Project site, yard and grounds, in areas disturbed by demolition activities of rubbish, waste materials, litter and foreign substances. Sweep paved areas broom clean. Remove petro-chemical spills, stains and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even-textured surface.
 - b. Remove tools, construction equipment, machinery and surplus material from the site.

END OF SECTION 01740

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SECTION 01781 - PROJECT CLOSEOUT

PART 1-GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Included This Section:
 - 1. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - a. Inspection procedures.
 - b. Project record document submittal.
 - c. Submittal of warranties.
 - 2. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2.

1.2 SUBSTANTIAL COMPLETION

- A. General:
 - 1. The Work or designated portion thereof will not be considered suitable for Substantial Completion until all systems are operational as designed; all designated or required governmental inspections or certifications have been made and posted.
 - 2. As a further condition of Substantial Completion, the Contractor(s) shall certify that all remaining work will be completed within 30 consecutive calendar days following the Date of Substantial Completion.
 - 3. Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and recommendation by the Engineer, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents.
- B. Forms:
 - 1. All forms to be used shall be as indicated in the project manual.

1.3 FINAL ACCEPTANCE

- A. At the completion of the Project prior to receiving final payment, the Contractor shall furnish the Owner, through the Engineer, properly signed and notarized waivers of lien from all subcontractors employed and material suppliers furnishing materials for the Project. Such waivers shall be submitted before final payment will be certified by the Engineer to the Owner.

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1.4 RECORD DOCUMENT SUBMITTALS

A. General:

1. The Contractor(s) shall record on the Record Drawings maintained at the site all changes and selections made during construction and shall locate by dimensions showing actual field measurements of all major items which will be concealed in the completed Work.

B. Record Drawings:

1. Record drawings shall be provided in the form of reproducible drawing sheets (reproducible vellum) and reflect locations of concealed items that remain after Work is complete.

D. Submittals:

1. Deliver Contractor's approved copy of all submittals provided during the course of the project.

E. Miscellaneous Record Submittals:

1. Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the owner's records.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01781

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SECTION 01788 - WARRANTIES AND BONDS

PART 1- GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Included This Section:
 - 1. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents.
 - 2. Specific requirements for warranties for the Work and products and installations that are specified to be warranted, are included in the individual Sections of Divisions 2.
 - 3. Certifications and other commitments and agreements for continuing services to Owner are specified in the Contract Documents.
- B. Disclaimers and Limitations:
 - 1. At no time shall any warranties/guaranties be submitted to the Owner for this project which supercedes or voids any of the Owners rights as established by the state's General Statutes for which the project is located.
 - 2. Failure of the Contractor and/or its suppliers, and its subcontractors to enter into such warranties as required by the Contract Documents shall be considered a breach of contract.

1.2 WARRANTY REQUIREMENTS

- A. Related Damages and Losses:
 - 1. When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work. Do not reuse damaged materials.

1.3 SUBMITTALS

- A. Written Warranties:
 - 1. Submit written warranties to the Engineer prior to Substantial Completion. The Engineer's Certificate of Substantial Completion designates a commencement date for warranties.
- B. Form of Submittal:
 - 1. At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, or supplier. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual. Deliver all warranties to the Engineer before or with the Request for Substantial Completion.

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- C. Reinstatement of Warranty:
 - 1. When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.
 - 2. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- D. Replacement Cost:
 - 1. Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of Contract Documents.
 - 2. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of Work through a portion of its anticipated useful service life.
- E. Owner's Recourse:
 - 1. Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- F. Rejection of Warranties:
 - 1. The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

PART 2 - PRODUCTS (not applicable)

PART 3 – EXECUTION (not applicable)

END OF SECTION

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SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 DESCRIPTION

A. Scope:

1. Provide all labor, materials, equipment, and incidentals as shown, specified and required for demolition, removal, and disposal Work.
2. The Work under this Section includes, but is not necessarily limited to:
 - a. Demolition and removal of existing materials and equipment as shown or indicated in the Contract Documents. The Work includes demolition paving and subbase.
3. Demolitions and removals specified under other Sections shall comply with requirements of this Section.
4. Perform demolition Work within areas shown or indicated.
5. Pay all costs associated with transporting and, as applicable, disposing of materials and equipment resulting from demolition.

B. Coordination:

1. Review procedures under this and other Sections and coordinate the Work that will be performed with or before demolition and removals.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Demolition, removal, and disposal Work shall be in accordance with 29 CFR 1926.850 through 29 CFR 1926.860 (Subpart T - Demolition), and all other Laws and Regulations.
2. Comply with requirements of authorities having jurisdiction.

1.3 SUBMITTALS

A. Informational Submittals: Submit the following:

1. Procedure Submittals:
 - a. Demolition and Removal Plan: Not less than ten days prior to starting demolition Work, submit acceptable plan for demolition and removal Work, including:
 - 1) Plan for coordinating shut offs, capping, temporary services, and continuing utility services.
 - 2) Other proposed procedures as applicable.
 - 3) Equipment proposed for use in demolition operations.
 - 4) Recycling/disposal facility(ies) proposed, including facility owner, facility name, location, and processes. Include copy of appropriate permits and licenses, and compliance status.
 - 5) Planned demolition operating sequences.
 - 6) Detailed schedule of demolition Work in accordance with the accepted Process Schedule.
2. Notification of Intended Demolition Start: Submit in accordance with Paragraph 3.1.A of this Section.
- 3.

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1.4 MEASUREMENT AND PAYMENT

A. Existing Utilities

1. Removal of asphalt will be paid under remove demo asphalt offsite.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PREPARATION

A. Notification:

1. At least 48 hours prior to commencing demolition or removal, notify ENGINEER in writing of planned start of demolition Work. Do not start removals without permission of ENGINEER.

B. Protection of Surrounding Areas and Facilities:

1. Perform demolition and removal Work in manner that prevents damage and injury to property, structures, occupants, the public, and facilities. Do not interfere with use of, and free and safe access to and from, structures and properties.
2. Closing or obstructing of roads, drives, sidewalks, and passageways adjacent to the Work is not allowed unless indicated otherwise in the Contract Documents. Conduct the Work with minimum interference to vehicular and pedestrian traffic.
3. Provide temporary barriers, lighting, sidewalk sheds, and other necessary protection.
4. Repair damage to facilities that are to remain.

C. Existing Utilities: In addition to requirements of the General Conditions, Supplementary Conditions, and Division 01 Specifications, do the following:

1. Should uncharted or incorrectly charted Underground Facilities be encountered, CONTRACTOR responsibilities shall be in accordance with the General Conditions as may be modified by the Supplementary Conditions. Cooperate with utility owners in keeping adjacent services and facilities in operation.
2. Shutdown of utility services shall be coordinated by CONTRACTOR, assisted by OWNER as required relative to contacting utility owners.

3.2 DEMOLITION – GENERAL

A. Locate construction equipment used for demolition Work and remove demolished materials and equipment to avoid imposing excessive loading on supporting and adjacent walls, floors, framing, facilities, and Underground Facilities.

B. Pollution Controls:

1. Use water sprinkling, temporary enclosures, and other suitable methods to limit emissions of dust and dirt to lowest practical level. Comply with Section 01 57 05, Temporary Controls, and Laws and Regulations.
2. Do not use water when water may create hazardous or objectionable conditions such as icing, flooding, or pollution.
3. Clean adjacent structures, facilities, properties, and improvements of dust, dirt, and debris caused by demolition Work, in accordance with the General Conditions and Section 01 74 05 Cleaning.

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- C. Explosives:
 - 1. Do not bring explosives to the Site or use explosives.
- D. Comply with Section 01 73 29, Cutting and Patching.
- E. Demolition of Site Improvements:
 - 1. Pavement, Sidewalks, Curbs, and Gutters: Demolition of asphalt pavement, as applicable, shall terminate at cut edges. Edges shall be linear and have a vertical cut face.
- F. Salvage and Ownership:
 - 1. Refer to Section 01 11 13, Summary of Work, for requirements on salvage, ownership, and handling of equipment and materials removed during demolition and removal Work.
- G. Finishing of Surfaces Exposed by Removals: Unless otherwise shown or indicated in the Contract Documents, surfaces of walls, floors, ceilings, and other areas exposed by removals, and that will remain as finished surfaces, shall be repaired and re finished with materials that match existing adjacent surface, or as otherwise approved by ENGINEER.

3.3 STRUCTURAL REMOVALS

- A. Remove structures to lines and grades shown or indicated, unless otherwise directed by ENGINEER. Where limits are not shown or indicated, limits shall be four inches outside item to be installed. Removals beyond limits shown or indicated shall be at CONTRACTOR's expense and such excess removals shall be reconstructed to satisfaction of ENGINEER without additional cost to OWNER.

3.4 DISPOSAL OF DEMOLITION DEBRIS

- A. Remove from the Site all debris, waste, rubbish, and material resulting from demolition operations and equipment used in demolition Work. Comply with the General Conditions, Supplementary Conditions, and Section 01 74 05, Cleaning.
- B. Geotechnical Engineer shall determine if stone base under existing pavement can be reused. If existing stone base is contaminated with significant amounts of soil, extremely wet, or otherwise useable then it should be remove from the site.
- C. Transportation and Disposal:
 - 1. Non-hazardous Material: Properly transport and dispose of non-hazardous demolition debris to a permitted landfill or other suitable location permitted by the Division of Solid Waste Management, in accordance with Laws and Regulations. Non-hazardous material does not contain Asbestos, PCBs, Petroleum, Hazardous Waste, Radioactive Material, or other material designated as hazardous in Laws and Regulations.

END OF SECTION

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SECTION 31 23 33

TRENCHING AND BACKFILLING

PART 1 GENERAL

1.1 DESCRIPTION

A. Scope:

1. Provide all labor, materials, equipment, and incidentals required to perform all excavating, filling, compacting, grading, and disposing of earth materials as shown, specified, and required for construction of Underground Facilities and related construction required to complete the Work.
2. Preparation of subgrade is included under this Section.
3. No classification of excavated materials will be made. Excavation includes all materials regardless of type, character, composition, moisture, or condition thereof.

B. Related Sections:

1.2 REFERENCES

A. Standards referenced in this Section are:

1. ASTM C33/C33M, Specification for Concrete Aggregates.
2. ASTM C150/C150M, Specification for Portland Cement.
3. ASTM C618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
4. ASTM D422, Test Method for Particle-Size Analysis of Soils.
5. ASTM D698, Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³)).
6. ASTM D1556, Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
7. ASTM D1557, Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
8. ASTM D2216, Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
9. ASTM D4253, Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
10. ASTM D4254, Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
11. ASTM D4318, Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
12. ASTM D4832, Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
13. ASTM D6023, Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material (CLSM).
14. ASTM D6103, Test Method for Flow Consistency of Controlled Low Strength Material (CLSM).
15. ASTM D6938, Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
16. ASTM E329, Specification for Agencies Engaged in Construction Inspection and/or Testing.

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1.3 TERMINOLOGY

- A. The following words or terms are not defined but, when used in this Section, have the following meaning:
1. "Subgrade" is the uppermost surface of native soil material unmoved from cuts; the bottom of excavation.

1.4 QUALITY ASSURANCE

- A. Qualifications:
1. Professional Engineer:
 - a. Engage a registered professional engineer legally qualified to practice in North Carolina and experienced in providing engineering services of the kind indicated.
 - b. Responsibilities include but are not necessarily limited to:
 - 1) Reviewing system performance and design criteria stated in the Contract Documents.
 - 2) Preparing written requests for clarifications or interpretations of performance or design criteria for submittal to ENGINEER by CONTRACTOR.
 - 3) Preparing or supervising the preparation of design calculations and related submittals verifying compliance of the system with the requirements of the Contract Documents.
 - 4) Signing and sealing all calculations, drawings, and submittals prepared by professional engineer.
 - 5) Certifying that:
 - a) it has performed the design of the system in accordance with the performance requirements stated in the Contract Documents, and
 - b) the said design conforms to Laws and Regulations, and to the prevailing standards of practice.
 2. CONTRACTOR's Testing Laboratory:
 - a. Retain the services of independent testing laboratory to perform testing and determine compliance with the Contract Documents of the materials specified in this Section.
 - b. Do not employ the same laboratory hired by OWNER for field quality control testing under the field quality control Article of this Section.
 - c. Testing laboratory shall comply with ASTM E329.
 - d. Testing laboratory shall be experienced in the types of testing required.
 - e. Selection of testing laboratory is subject to ENGINEER's acceptance.
- B. Quality Assurance Testing:
1. Quality assurance testing is in addition to field quality control testing required under Part 3 of this Section.
 2. Materials used in the Work may require testing and retesting, as directed by ENGINEER, during the Project. Allow free access to material stockpiles and facilities at all times. Tests not specifically indicated to be performed at OWNER's expense, including retesting of rejected materials and installed Work, shall be performed at CONTRACTOR's expense.
 3. CONTRACTOR's Testing Laboratory Scope:
 - a. Collect samples and perform testing of proposed fill materials in the laboratory and in the field to demonstrate compliance of the Work with the Contract Documents.

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- b. Testing laboratory shall perform testing required to obtain data for selecting moisture content for placing and compacting fill materials.
- c. Submit to ENGINEER and CONTRACTOR written report results of each test.
- 4. Required Quality Assurance Material Testing by CONTRACTOR's Testing Laboratory:
 - a. Gradation in accordance with ASTM D422. Perform one test for every 1,000 cubic yards of each of the following types of material incorporated into the Work: select fill, general fill, subbase material, drainage fill, and pipe bedding material.
 - b. Atterberg limits in accordance with ASTM D4318. Perform one test for every 1,000 cubic yards of the following types of materials incorporated into the Work.
 - c. Moisture/density relations in accordance with ASTM D698, ASTM D1557, ASTM D4253, or ASTM D4254, as applicable. Perform one test for every 5,000 cubic yards of the following types of materials incorporated into the Work.
 - d. Moisture content of stockpiled or borrow material in accordance with ASTM D2216. Perform one test for every 1,000 cubic yards of the following types of material incorporated into the Work: select fill, general fill, subbase material, and drainage fill.
- C. Regulatory Requirements:
 - 1. Perform excavation work in compliance with requirements of authorities having jurisdiction and Laws and Regulations, including:
 - a. OSHA, 29 CFR Part 1926, Section .650 (Subpart P - Excavations).
 - 2. Obtain required permits and approvals for excavation and fill Work, including work permits from right-of-way owners and permits from environmental authorities having jurisdiction over discharge of water from excavations.

1.5 SUBMITTALS

- A. Action Submittals: Submit the following:
 - 1. Shop Drawings:
 - a. Laboratory Trial Batch Reports: Submit laboratory quality assurance test reports for materials and mix design tests.
 - b. Modifications to the Work proposed due to design of sheeting, shoring, bracing, cofferdams, and similar excavation supports.
 - 2. Product Data:
 - a. Manufacturer's specifications with application and installation instructions for proprietary materials and items.
- B. Informational Submittals: Submit the following:
 - 1. Procedure Submittals:
 - a. Excavation Plan: Prior to starting excavation operations, submit written plan to demonstrate compliance with OSHA 29 CFR Part 1926.650. As a minimum, excavation plan shall include:
 - 1) Name of CONTRACTOR's "competent person" in responsible charge of excavation and fill Work.
 - 2) Excavation method(s) and additional items to be included in the Work, as listed in Paragraph 1.5.B.2.a of this Section.
 - 3) Copies of "manufacturer's data" or other tabulated data if protective system(s) are designed on the basis of such data.
 - 4) Copies of required permits and approvals, from authorities having jurisdiction and affected utility owners, for excavation methods proposed.

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- b. Proposed compaction procedure and compaction equipment proposed for use. Where different procedures or equipment will be used for compacting different types of material or at different locations at the Site, indicate where each procedure and equipment item will be used.
- 2. Excavation Support Plan and Related Information Prepared by CONTRACTOR's Professional Engineer:
 - a. CONTRACTOR and CONTRACTOR's professional engineer shall prepare the following for submittal:
 - 1) Sheeting and bracing, or other protective system(s) required.
 - 2) Dewatering system.
 - 3) Cofferdams.
 - 4) Underpinning.
 - b. Drawings shall be prepared by professional engineer qualified in the specialty involved. Do not submit calculations. ENGINEER's review and acceptance of submittal does not imply approval by ENGINEER of the associated Work. Be solely responsible for designing, installing, operating and maintaining the system(s) necessary to satisfactorily perform all sheeting, bracing, protection, underpinning, and dewatering.
- 3. Quality Assurance Test Results Submittals:
 - a. Submit results of quality assurance testing performed by in accordance with Paragraph 1.4.B of this Section, unless included as part of another submittal under this Section. Submit results for the following quality assurance testing:
 - 1) Tests on borrow fill material.
 - 2) Optimum moisture - maximum dry density curve for each type of fill material.
- 4. Field Quality Control Submittals:
 - a. Submit results of testing and inspection performed in accordance with the field quality control Article in Part 3 of this Section, including:
 - 1) Field density testing.
 - 2) Tests of actual unconfined compressive strength or bearing tests of each stratum.
- 5. Qualifications Statements:
 - a. Professional engineer.
 - b. Field Quality Control Testing Laboratory: Names and qualifications of testing laboratory employed, and qualifications of testing laboratory's personnel that will perform field quality control testing as required under this Section.

1.6 SITE CONDITIONS

- A. Refer to Geotechnical Report of Pavement evaluation and rehabilitation survey by ECS Carolinas, LLP, dated April 1, 2016.
- B. Existing Structures:
 - 1. The Contract Documents show or indicate certain structures and Underground Facilities adjacent to the Work. Such information was obtained from existing records and is not guaranteed to be correct or complete. Explore ahead of the excavation to determine the exact location of all existing structures and Underground Facilities. Existing structures and Underground Facilities shall be supported and protected from damage by CONTRACTOR. Immediately repair and restore existing structures and Underground Facilities damaged by CONTRACTOR without additional cost to OWNER.

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2. Movement or operation of construction equipment over Underground Facilities shall be at CONTRACTOR's sole risk and only after CONTRACTOR has prepared and submitted to ENGINEER and utility owners (as applicable), and received acceptance therefrom, a plan describing CONTRACTOR's analysis of the loads to be imparted and CONTRACTOR's proposed measures to protect structures and Underground Facilities during the Project.
3. Coordinate with utility owners for shut off of services in active piping and conduits. Completely remove buried piping and conduits indicated for removal and not otherwise indicated as being abandoned or to remain in place.
4. Do not interrupt existing utilities serving facilities occupied and used by OWNER or others, except when such interruption is indicated in the Contract Documents or when allowed in writing by ENGINEER after acceptable temporary utility services are provided by CONTRACTOR for the affected structure or property.

1.7 MEASUREMENT AND PAYMENT

- A. Method of Measurement:
 1. The quantity of stabilization stone (No. 57) to be paid for will be the action tons of stone which is incorporated into the work.
- B. Basis of Payment:
 1. The quantity of stabilization stone, will be paid for at the contract unit price per ton.
 2. The above price and payments shall be full compensation for all work covered by this Section, including but not limited to excavating, sheeting, shoring, or bracing the trench; preparing the trench bottom; backfilling and compacting the trench; furnishing, hauling, any stockpiling, placing, and tamping required for installation of stone for trench stabilization, disposing of excess excavation; and restoring the area to its previous condition.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Stone Aggregate
 1. All stone aggregate shall conform to the requirements of Section 1005 of the most current "Standard Specifications for Roads and Structures" published by the NCDOT.
 2. Aggregate gradation shall conform to Table 1005-1 of the most current "Standard Specifications for Roads and Structures" published by the NCDOT.
- B. Select Fill:
 1. Material shall be well-graded, crushed aggregate, free of organic material. Material shall be Item 1016 Class II, Type 2 and conform to the requirements of Section 1005. Material must meet the gradation requirements provided in Table 1005-1 of NCDOT's most current publication of "Standard Specifications for Roads and Structures."
- C. General Fill:
 1. Material shall be free of: rock and gravel larger than 1.5 inches in any dimension, cinders, ashes, debris, waste, frozen materials, vegetable or organic material, and other deleterious matter that is considered unsuitable by the ENGINEER.
 2. Fill shall have a liquid limit not greater than 45, and plasticity index not greater than 25.

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- a. If excavated material is considered a suitable soil type to be used as backfill material but contains excessive moisture the following three conditions shall prevail.
 - 1) Reduce the moisture content of the material to an acceptable level by aerating the material adjacent to the excavated trench.
 - 2) Where the area available to aerate the excavated material is limited or insufficient, and the moisture content is above the optimum for the type of soil, but compaction is attainable with extra compactive effort, use extra compactive effort in the backfilling operation to obtain a solid density of 95% Standard Density.
 - 3) Where the area available to aerate the excavated material is limited or insufficient and the moisture content is above optimum for the type of soil, and satisfactory compaction is determined by the ENGINEER to be unattainable, the ENGINEER will authorize the CONTRACTOR to provide approved backfill material.
 3. Previously-excavated materials complying with the Contract Documents requirements for general fill may be used for general fill.
 4. When on-Site materials are found unsuitable for use as general fill, provide select fill or approved off-Site general fill materials. Prior to using off-Site material as general fill, furnish submittal for and obtain ENGINEER's approval of the material proposed for use.
- D. Subbase Material:
1. Material shall be naturally- or artificially-graded mixture of natural or crushed gravel, crushed stone, or natural or crushed sand. Crushed slag is unacceptable. Material shall be Item 1008 in accordance with NCDOT.
- E. Drainage Fill:
1. Material shall be washed, uniformly-graded mixture of crushed stone, or crushed or uncrushed gravel, with 100 percent passing 1.5-inch sieve and not more than five percent passing a No. 8 sieve. Material shall be Item 1005 #57 in accordance with NCDOT.

2.2 SOURCE QUALITY CONTROL

- A. Perform quality assurance testing, and submit results to ENGINEER, in accordance with the "Quality Assurance" Article in Part 1 of this Section.

PART 3 EXECUTION

3.1 INSPECTION

- A. Provide ENGINEER with sufficient notice and with means to examine areas and conditions under which excavating, filling, and grading will be performed. ENGINEER will advise CONTRACTOR in writing when ENGINEER is aware of conditions that may be detrimental to proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.2 TEST EXCAVATIONS

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A. General:

1. In advance of the construction, excavate, make observations and measurements, and fill test excavations to determine conditions or location of the existing Underground Facilities and structures. Perform all work required in connection with excavating, stockpiling, maintaining, sheeting, shoring, filling, and replacing pavement for test excavations. Be responsible for the definite location of each existing Underground Facility involved within the area of excavation for the Work. Exercise care during such location work to avoid damaging and disrupting the affected Underground Facility or structure. Be responsible for repairing, at his expense, damage to Underground Facility or structure caused during the Work.

3.3 PREPARATION

A. Site Preparation:

1. Clear areas to be occupied by permanent construction of all trees, brush, roots, stumps, logs, wood and other materials and debris. Clean and strip vegetation, sod, topsoil, and organic matter from subgrades where fills will be placed, and from areas where structures will be constructed. Remove from the Site and properly dispose of all waste materials.
2. Burning is not allowed at the Site.

B. Use of Explosives:

1. Use of explosives is not allowed.
1. Do not bring explosives to the Site or use explosives without written consent of OWNER and authorities having jurisdiction. Obtaining such written consent will not relieve CONTRACTOR of responsibility for injury or damage caused by CONTRACTOR's blasting operations. Submit to ENGINEER copies of written consent and permits for blasting.

C. Dust Control:

1. Control objectionable dust caused by CONTRACTOR's operation of vehicles and equipment, clearing, and other actions. To minimize airborne dust, apply water or use other methods subject to ENGINEER's acceptance and approval of authorities having jurisdiction.

3.4 DEWATERING

A. Dewatering - General:

1. Provide and maintain adequate drainage and dewatering equipment to remove and dispose of all surface water and ground water entering excavations, or other parts of the Work and work areas. Keep each excavation dry during excavation, subgrade preparation, and continually thereafter until the Underground Facilities to be built therein area acceptable to ENGINEER and backfilling operations are completed and acceptable to ENGINEER.
2. Keep all working areas at the Site free of surface water at all times. Trench shall be braced and drained so that workmen may work safely and efficiently. Provide temporary drainage ditches and temporary dikes, and provide required temporary pumping and other work necessary for diverting or removing rainfall and all other accumulations of surface water from excavations and fill areas. Perform diversion and removal of surface water in manner that prevents accumulation of water behind permanent or temporary structures and at any other locations in the construction area where such accumulations may be detrimental.

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3. Water used for working or processing, resulting from dewatering operations, or containing oils or sediments that will reduce the quality of the surface water or groundwater downstream of the point of discharge, shall not be directly discharged. Divert such waters through temporary settling basin or filter before discharging to surface water, groundwater, or drainage routes.
 4. Be responsible for condition of piping, conduits, and channels used for drainage and such piping, conduits, and channels shall be clean and free of sediment.
 5. Remove water from excavations as fast as water collects.
- B. Disposal of Water Removed by Dewatering System:
1. CONTRACTOR's dewatering system shall discharge from pumps and led to natural drainage channels, drains, or storm sewers. Erosion control shall be maintained when discharging water into natural drainage channels suitable and acceptable to OWNER and owners of other properties potentially affected by water discharge, including owners adjacent to and downstream of dewatering system discharge. Operation of dewatering system and disposal of water shall be in accordance with Laws and Regulations.
 2. Convey water from excavations in closed conduits. Do not use trench excavations as temporary drainage ditches.
 3. Dispose of water removed from excavations in a manner that does not endanger health and safety, property, the Work, and other portions of the Project. In accordance with all National, State, and Local Regulations.
 4. Dispose of water in manner that causes no inconvenience to OWNER, others involved in the Project, and adjacent and downstream properties.

3.5 EXCAVATION

- A. Perform all excavation required to complete the Work as shown, specified, and required. Excavations shall be carried out in such a manner as to conform to the line and grade shown on the drawings.
- B. Excavations shall include removing and handling of earth, sand, clay, gravel, hardpan, soft, weathered or decomposed rock, pavements, rubbish, and other materials within the excavation limits.
- C. Excavation Protection:
1. Provide excavation protection system(s) in accordance with Laws and Regulations to prevent injury to persons and property, including Underground Facilities.
 2. Excavation Less Than Five Feet Deep: Excavations in stable rock or in soil conditions where there is no potential for a cave-in may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.
 3. Excavations Greater Than Five Feet Deep: Excavations in stable rock may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.
 4. Provide and maintain excavation protection system(s) in accordance with submittals accepted by ENGINEER and required under Paragraph 1.5.B of this Section.
- D. Maintain excavations in dry condition in accordance with "Dewatering" Article in Part 3 of this Section.
- E. Elevations of piping, conduit, and similar other Underground Facilities shall be as shown or indicated on the Contract Documents.

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- F. When excavations are made below required grades without written order of ENGINEER, fill such excavations with compacted select fill material, as directed by ENGINEER, at CONTRACTOR's expense.
- G. Extend excavations sufficiently on each side of structures, footings, and similar construction to allow setting of forms, installation of shoring and bracing, and the safe sloping of banks, as necessary.
- H. Subgrades - General:
 - 1. Subgrades shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud, muck, and other soft or unsuitable materials; and shall remain firm and intact under all construction operations. Subgrades that are otherwise solid but become soft or mucky on top due to construction operations shall be reinforced with select fill. Finished elevation of stabilized subgrades shall not be above subgrade elevations shown.
 - 2. If, in ENGINEER's opinion, subgrade becomes softened or mucky because of construction delays, failure to dewater properly, or other cause within CONTRACTOR's control, subgrade shall be excavated to firm material, trimmed, and backfilled with select fill material at CONTRACTOR's expense.
- I. Excavated Materials to be Used as Fill:
 - 1. Stockpile excavated materials that are acceptable for use as fill.
 - 2. As excavation proceeds, keep stockpiles of excavated materials suitable for use as fill separate from unsuitable materials and waste materials.
 - 3. Place, grade, and shape stockpiles for proper drainage.
 - 4. Locate and retain soil materials away from edge of excavations.
 - 5. Dispose of excess soil material and waste materials as specified in this Section.
 - 6. Stockpiled excavated soils for use as select fill or general fill shall be tested and classified by laboratory as on-Site select fill or on-Site general fill. Perform required quality assurance testing for material verification on stockpiled materials as soon as possible to demonstrate compliance of excavated materials with the Contract Documents.
 - 7. When all excavated material cannot be stored in the right-of-way or other lands provided by OWNER in such manner as to maintain traffic conditions as specified, remove surplus material from the Site and store such material appropriately. After laying pipe or completing the Underground Facility or structure being built in the trench, bring back to trench sufficient quantity of suitable excavated material required for backfilling the trench.

3.6 UNAUTHORIZED EXCAVATION

- A. All excavations outside lines and grades shown or indicated and that are not approved by ENGINEER, together with removing and disposing of the associated material, shall be at CONTRACTOR's expense. Fill unauthorized excavations with properly-compacted select fill material at CONTRACTOR's expense.

3.7 SHEETING, SHORING, AND BRACING

- A. General:
 - 1. Design and provide sheeting, shoring, bracing, cofferdams, and similar excavation supports as shown, specified, and required for the Work.

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- a. Sheeting, shoring, or bracing shall protect the utility under construction, to allow construction to be performed according to drawings and specifications, or to prevent damage to property.
 2. Clearances and types of temporary sheeting, shoring, bracing, and similar excavation supports, insofar as they may affect the finished character of the Work and the design of sheeting to be left in place, will be subject to the ENGINEER's approval; but CONTRACTOR is responsible for adequacy of all sheeting, shoring, bracing, cofferdams, and similar excavation supports.
 3. Materials:
 - a. Previously-used materials shall be in good condition, and shall not be damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary sheeting, shoring, and bracing.
 - b. All steel work for sheeting, shoring, bracing, cofferdams and other excavation supports, shall be in accordance with ANSI/AISC 360, except that field welding will be allowed.
 4. As excavation progresses, carry down shoring, bracing, cofferdams, and similar excavation supports to required elevation at bottom of excavation.
 5. Comply with OSHA requirements and all other Laws and Regulations regarding sheeting, shoring, bracing, cofferdams, and similar excavation supports.
 6. Maintain sheeting, shoring, bracing, and other excavation supports in excavations regardless of time period excavations will be open.
 7. Sheeting shall NOT be braced against the pipe or in any manner that will allow concentrated loads or horizontal thrusts to be transmitted to the pipe.
 8. In locations where a moveable steel box is used in place of sheeting, care must be taken to protect the integrity of the pipe bedding and to prevent the pipe from moving when the steel box is moved.
 9. Unless otherwise shown, specified, or directed, remove materials used for temporary construction when the Work is completed. Perform such removal in manner not injurious to the structures and Underground Facilities, their appearance, and adjacent construction.
- B. Removal of Sheeting and Bracing:
1. Remove sheeting and bracing from excavations, unless otherwise directed by ENGINEER in writing. Perform removal to avoid damaging the Work and adjacent construction and to minimize the loss of friction between the backfill and trench walls. Removal shall be equal on both sides of excavation to ensure no unequal loads on structures and Underground Facilities.
 2. Defer removal of sheeting and bracing, where removal may cause soil to come into contact with concrete, until concrete has cured for not less than seven days.
 3. Trench protection shall be left in place, at a minimum, until the pipe has been laid and backfilled to a point two feet above the pipe.

3.8 TRENCH SHIELDS

- A. Excavation of earth material below bottom of trench shield shall not exceed the limits established in Laws and Regulations.

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- B. When using a shield for installing structures, including structures that are Underground Facilities, bottom of the shield shall not extend below the top of the bedding for the structures.
- C. When removing the shield or moving the shield ahead, exercise extreme care to prevent moving piping, structures, and other Underground Facilities, and prevent disturbance of bedding material for piping, structures, and other Underground Facilities. When piping, structures, or other Underground Facilities are disturbed, remove and reinstall the disturbed items in accordance with the Contract Documents.

3.9 FILL AND COMPACTION - GENERAL PROVISIONS

- A. Provide and compact all fill required for the finished grades as shown and as specified in this Section.
- B. Place fill in excavations as promptly as progress of the Work allows, but not until completing the following:
 - 1. ENGINEER's authorization after observation of construction below finish grade.
 - 2. Inspection, testing, approval, and recording of locations of Underground Facilities.
 - 3. Removal of formwork.
 - 4. Removal of shoring and bracing, and filling of voids with satisfactory materials.
 - 5. Removal of trash and debris.
- C. Fill that includes organic materials or other unacceptable material shall be removed and replaced with approved fill material in accordance with the Contract Documents.
- D. Placement - General:
 - 1. Place fill to the grades shown or indicated. Bring up evenly on all sides fill around structures and Underground Facilities.
 - 2. Place fill materials at moisture content and density as specified in this Article's requirements on compaction density. Furnish and use equipment capable of adding measured amounts of water to the fill materials to bring fill materials to a condition within required moisture content range. Furnish and use equipment capable of discing, aerating, and mixing the fill materials to ensure reasonable uniformity of moisture content throughout the fill materials, and to reduce moisture content of borrow materials by air drying, when necessary. When subgrade or lift of fill materials requires moisture-conditioning before compaction, fill material shall be sufficiently mixed or worked on the subgrade to ensure uniform moisture content throughout the lift of material to be compacted. Materials at moisture content in excess of specified limit shall be dried by aeration or stockpiled for drying.
 - 3. Perform compaction with equipment suitable for the type of fill material placed. Select and use equipment capable of providing the minimum density required in the Contract Documents. Use light compaction equipment, with equipment gross weight not exceeding 7,000 pounds within horizontal distance of ten feet from the wall of completed, below-grade structures. Furnish and use equipment capable of compacting in restricted areas next to structures and around piping and other Underground Facilities. Effectiveness of the equipment selected by CONTRACTOR shall be tested at start of compacted fill Work by constructing a small section of fill within the area where fill will be placed. If tests on the test section of fill indicate that required compaction is not obtained, do one or more of the following: increase the amount of coverages, decrease the lift thicknesses, or use different compactor equipment.

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4. Place fill materials in horizontal, loose lifts, not exceeding specified uncompacted thickness. Place fill in a manner ensuring uniform lift thickness after placing. Mechanically compact each lift, by not less than two complete coverages of the compactor. One coverage is defined as the conditions reached when all portions of the fill lift have been subjected to the direct contact of compactor's compacting surface. Compaction of fill materials by inundation with water is unacceptable.
 5. Do not place fill materials when standing water is present on surface of the area where fill will be placed. Do not compact fill when standing water is present on the fill to be compacted. Do not place or compact fill in a frozen condition or on top of frozen material. Fill containing organic materials or other unacceptable material previously described shall be removed and replaced prior to compaction.
 6. If required densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly-functioning compaction equipment, perform all work required to provide the required densities. Such work shall include, at no additional cost to OWNER, complete removal of unacceptable fill areas and replacement and re-compaction until acceptable fill is provided.
 7. Repair, at CONTRACTOR's expense, observed or measured settlement. Make repairs and replacements as required within 30 days after being so advised by ENGINEER.
 8. Maintain surface of paved area over the fill in good and safe condition during progress of the Work, and promptly fill depressions over and adjacent to the fill area caused by settlement of fill.
 9. Permanent replacement pavement shall be equal to that of the existing roadways, unless otherwise shown or specified.
- E. Subbase Placement:
1. Provide subbase material where shown to the limits shown.
 2. Place subbase material in compacted lifts not exceeding depth of six inches each.
- F. Drainage Fill Placement:
1. Provide drainage fill material where shown to the limits shown or indicated.
 2. Place drainage fill material in compacted layers of uniform thickness not exceeding depth of six inches each. Compact lifts of drainage fill using suitable compaction equipment.
- G. Compaction Density Requirements:
1. Minimum density for fill materials shall be 100 percent of maximum density obtained in the laboratory in accordance with ASTM D698. Compaction of fill materials less than 5 feet below final grade, behind concrete walls, and pipe bedding materials when not located below structures or pavement shall be 95 percent of maximum density.
 2. Place fill in trenches below piping, foundations, or paved areas in horizontal uncompacted layers not greater than 8 inches deep, and thoroughly compact each layer before next layer is placed. In other pipe trenches, horizontal uncompacted layers shall be not greater than 6 inches deep.
 3. Fill shall be wetted and thoroughly mixed to achieve optimum moisture content plus-or-minus 3 percent, with the following exceptions:
 - a. On-site clayey soils: Optimum to plus three percent.
 4. Replace natural, undisturbed soils or compacted soil subsequently disturbed or removed by construction operations with materials compacted as indicated.
 5. Field quality control testing for density; to verify that specified density was obtained, will be performed during each day of compaction Work. Responsibility for field quality control testing is specified in the "Field Quality Control" Article in Part 3 of this Section.

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6. When field quality control testing indicates unsatisfactory compaction, provide additional compaction necessary to obtain the specified compaction. Perform additional compaction Work at no additional cost to OWNER until specified compaction is obtained. Such work includes complete removal of unacceptable (as determined by ENGINEER) fill areas and replacement and re-compaction until acceptable fill is provided in accordance with the Contract Documents.
- H. Replacement of Unacceptable Excavated Materials: In cases where over-excavation to replace unacceptable soil materials is required, backfill the excavation to required subgrade with select fill material and thoroughly compact in accordance with "Compaction Density Requirements" of this Article and the associated "Compaction Density Requirements" in this Article. Slope the sides of excavation in accordance with the maximum inclinations specified for each structure location.

3.10 GRADING

- A. General:
 1. Uniformly grade areas within limits of grading under this Section, including adjacent transition areas.
 2. Smooth subgrade surfaces within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
 3. Blend grading over trench to elevations shown or indicated; where elevations are not shown or indicated, blend finished grade with existing grade on each side of trench.
- B. Finish surfaces free of irregular surface changes, and shall comply with the following:
 1. Grassed Areas or Areas Covered with Gravel, Stone, Wood Chips, or Other Special Cover: Finish areas to receive topsoil or special cover to within not more than one inch above or below the required subgrade elevations.
 2. Sidewalks: Shape surface of areas under sidewalks to line, grade, and cross section, with finish surface not more than one inch above or below the required subgrade elevation.
 3. Pavements: Shape surface of areas under pavement to line, grade, and cross section, with finish surface not more than 1/2-inch above or below the required subgrade elevation.
- C. Compaction:
 1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.11 PAVEMENT SUBBASE COURSE

- A. General:
 1. Place subbase material, in layers of specified thickness, over ground surface to support pavement base course.
 2. After completing filling and grading, shape and compact pavement subgrade to an even, firm foundation in accordance with this Section.
 3. Fill trenches over which pavement will be placed with select fill.
- B. Grade Control:

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1. During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. Placing of Pavement Subbase Course:
 1. Place subbase course material on prepared subgrade in layers of uniform thickness, in accordance with indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placing operations.
 2. After completing compaction, other than that necessary for bringing material for the next course, do not haul or drive over the compacted subbase.

3.12 DISPOSAL OF EXCAVATED MATERIALS

- A. General:
 1. Haul away material removed from excavations that does not comply with requirements for fill, or is in excess of the quantity required for fill.
 2. Disposal of materials shall be in compliance with Laws and Regulations, at no additional cost to OWNER.

3.13 TEMPORARY BARRIERS

- A. General:
 1. Provide temporary barrier surrounding excavations and excavation work areas for protection of persons and property. Temporary barriers supplement the requirements of Section 01 55 26, Maintenance and Protection of Traffic.
 2. Provide temporary barriers where shown or indicated, and where necessary to protect persons and property. At minimum, provide temporary barriers for all excavations that remain open overnight or longer.

3.14 FIELD QUALITY CONTROL

- A. Site Tests: CONTRACTOR will employ a testing laboratory to perform field quality control testing.
 1. Testing Laboratory Scope:
 - a. Perform field moisture content and density tests to ensure that the specified compaction of fill materials has been obtained.
 - b. Tests of actual unconfined compressive strength or bearing tests on each stratum.
 - c. Report results of each test to ENGINEER and CONTRACTOR.
 2. Required Material Tests:
 - a. Compaction: Comply with ASTM D1556 and ASTM D6938, as applicable.
 3. Authority and Duties of Testing Laboratory:
 - a. Technicians representing the testing laboratory shall inspect the materials in the field, perform testing, and report findings to ENGINEER and CONTRACTOR. When materials furnished or the Work performed does not comply with the Contract Documents, technician will direct attention of ENGINEER and CONTRACTOR to such failure.
 - b. Technician will not act as foreman or perform other duties for CONTRACTOR. Work will be checked as it progresses, but failure to detect defective Work or non-complying materials shall not in any way prevent later rejection when defect is discovered, nor shall it obligate ENGINEER for Substantial Completion or final acceptance. Technicians are not authorized to revoke, alter, relax, enlarge, or

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release requirements of the Contract Documents, or to approve or accept any portion of the Work.

4. Responsibilities and Duties of CONTRACTOR:
 - a. Use of testing laboratory shall in no way relieve CONTRACTOR of the responsibility to provide materials and Work in full compliance with the Contract Documents.
 - b. To facilitate testing laboratory, advise testing laboratory at least two days in advance of filling operations to allow for completion of field quality control testing and for assignment of personnel.
 - c. It shall be CONTRACTOR's responsibility to accomplish the specified compaction for fill and other earthwork. Control construction operations by confirmation tests to verify and confirm that CONTRACTOR has complied, and is complying at all times, with the Contract Documents relative to compaction, control.
 - d. Demonstrate adequacy of compaction equipment and procedures before exceeding one or more of the following quantities of earthwork. Each test location shall include tests for each layer, type, or class of fill to finish grade.
 - 1) 10 cubic yards of select fill other than that placed in trenches.
 - 2) 100 cubic yards of general fill other than that placed in trenches.
 - 3) 50 cubic yards of subbase material.
5. Testing laboratory will inspect and indicate acceptable subgrades and fill layers before construction work is performed thereon. Testing of subgrades and fill layers shall be taken as follows:
 - a. Subbase Material: One per 1,000 square feet on every compacted lift.
6. Periodic compliance tests will be made by ENGINEER to verify that compaction is complying with the requirements specified, at no cost to CONTRACTOR. Remove the overburden above the level at which ENGINEER wishes to test and shall fill and re-compact the excavation after testing is complete.
7. If testing laboratory reports or inspections indicate subgrade, fills, or bedding compaction below specified density, remove unacceptable materials as necessary and replace with specified materials and provide additional compaction at CONTRACTOR's expense until subgrades, bedding, and fill are acceptable. Costs for retesting of subgrade, fills, or bedding materials that did not originally comply with specified density shall be paid by CONTRACTOR.

END OF SECTION

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FULL DEPTH RECLAMATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Full Depth Reclamation - This item shall consist of constructing a cement stabilized base by pulverizing the existing asphalt, base course stone or soil type base, and subgrade soil (if required) with specialized mixing equipment followed by mixing with Portland cement, and water. The mixed material shall be spread, shaped, and compacted in accordance with these specifications and in conformity to the dimensions and typical cross section shown on the plans.
2. Full Depth Reclamation shall conform to the requirements of section 542 (Soil-Cement Base) of the most current NCDOT "Standard Specifications for Roads and Structures."

B. Related Sections:

1. Earth Moving: Earthwork for pavement.
2. Asphalt Paving.

1.2 REFERENCES

A. American Concrete Institute (ACI):

1. Specifications for Structural Concrete.
2. Standard Practice for Curing Concrete.

B. American society for Testing and Materials (ASTM):

1. ASTM C 136 Sieve or Screen Analysis of Fine and Coarse Aggregate
2. ASTM D 558 Moisture-Density Relations of Soil-Cement Mixtures
3. ASTM D 559 Wetting-and-Drying Tests of Compacted Soil-Cement Mixtures
4. ASTM D 560 Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures
5. ASTM D 1556 Test for Density of Soil In-Place by the Sand Cone Method
6. ASTM D 6938 Density of Soil-Aggregate Mixtures by Nuclear Methods (Direct Transmission)
7. AASHTO T 26 Quality of Water to be Used in Concrete
8. ASTM C 150 Portland Cement

1.3 SUBMITTALS

A. Submittal Procedures: Procedures for submittals.

1. Product Data: Submit product data for the following:
 - a. Laboratory mixing design.
 - b. Concrete admixtures.
 - c. Concrete curing compounds.
2. Assurance/Control Submittals:
 - a. Concrete Mix Design: Submit three copies of each proposed mix design for each class of concrete in accordance with ACI 301, Sections 3.9 "Proportioning on the basis of previous field experience or trial mixture", or 3.10 "Proportioning based on

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empirical data". Submit separate mix design for concrete to be placed by pumping, in addition to the mix design for concrete to be placed directly from the truck chute.

- b. Include the following information in concrete mix design:
 - 1) Proportions of cement, fine and coarse aggregate, and water.
 - 2) Water-cement ratio, 28-day compressive design strength, slump, and air content.
 - 3) Type of cement and aggregate.
 - 4) Aggregate gradation.
 - 5) Type and dosage of admixtures.
 - 6) Special requirements for pumping.
 - 7) Range of ambient temperature and humidity for which design is valid.
 - 8) Special characteristics of mix which require precautions in mixing, placing, or finishing techniques to achieve finished product specified.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Conform to ACI 305R when mixing and placing concrete during hot weather.
- C. Conform to ACI 306R when mixing and placing concrete during cold weather.
- D. Regulatory Requirements:
 - 1. Conform to applicable requirements for paving work on public property.
 - 2. Contractor shall maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping, flagmen, barricades, warning signs, and warning lights as required.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

- A. PORTLAND CEMENT. Portland cement shall conform to the requirements of ASTM C-150, Type I/II. Use of specialty cements such as those containing slag or flyash will not be permitted.
- B. WATER. Water shall be clean and free from sewage, oil, acid, strong alkalies, or vegetable matter. Water of questionable quality shall be tested in accordance with the requirements of AASHTO T 26.
- C. MIXING EQUIPMENT – Equipment used to pulverize the existing asphalt, base course stone, and subgrade soil shall be capable of the following.
 - 1. Shall be capable of mixing at least 18 inches below existing surface.
 - 2. The mixing equipment shall be capable of injecting water directly into the mixing drum.
 - 3. Shall be capable of pulverizing the existing asphalt, base course stone, and subgrade stone to form a homogenous material in which at least 90 percent of the material will pass through a 2 inch sieve and 100 percent of the material will pass through a 3 inch sieve.

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- D. **COMPACTION EQUIPMENT** – Compaction equipment shall consist of vibratory sheeps-foot rollers and vibratory smooth drum rollers of sufficient weight and size capable of compacting the mixture at least 12 inches deep.
- E. **Aggregates:** ASTM C33.
 - 1. Fine aggregate shall be natural sand, or sand prepared from stone or gravel. Grains shall; be clean, hard, durable, uncoated and free from silt, loam and clay.
 - 2. Coarse Aggregates: Crushed stone, gravel, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces free from adherent coatings. Maximum size of pieces shall be 3/4" to #4 except for footings, which may be 1-1/2". The maximum size of aggregate may also be not larger than one fifth of the narrowest dimension between forms, nor larger than three fourths of the minimum clear spacing between reinforcing bars.

2.2 TESTING

- A. **Laboratory Testing:**
 - 1. Before the start of construction the Contractor shall send a qualified representative to sample of the existing pavement and determined the required mix design to obtain the optimum percentage of cement to achieve a typical 300 to 350 psi unconfined compressive strength of blended materials. Test specimens containing various amounts of Type I Portland cement are to be compacted in accordance with ASTM D 558 at optimum moisture content. Results shall be provide to Engineer.
- B. **Acceptance Testing:**
 - 1. Testing of the acceptance of in-place stabilized base will be the responsibility of the Contractor. However, testing by the owner does not relieve the contractor of the responsibility to properly construct and maintain the stabilized base as required by these specifications. Results shall be provide to Engineer.

2.3 CONSTRUCTION METHODS

- A. **WEATHER LIMITATIONS.** The full depth reclamation shall not be mixed or placed while the atmospheric temperature is below 40 F (2 C) or when conditions indicate that the temperature may fall below 35 F (2 C) within 24 hours, or when the weather is foggy or rainy, or when the base or subgrade is frozen. The surface must be protected with blankets or other methods if lower temperatures are expected.
- B. **EQUIPMENT.** The stabilized base may be constructed with any equipment that will meet the requirements for soil and pavement pulverization, cement application, mixing, water application, incorporation of materials, compaction, finishing, and curing specified herein. (See Section 2.3) However, a uniform mixture must be achieved. The contractor shall submit photographs of the equipment to be used on this project at least 10 days prior to starting work.
- C. **PREPARATION.** The area for placement shall be graded and shaped to conform to the grades and typical cross section shown on the plans.
- D. **PULVERIZATION.** Pulverization shall be continued until the mixture meets the minimum grading requirements of Section 2.3.

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- E. CEMENT APPLICATION, MIXING, AND SPREADING. Cement shall be spread in a manner which will limit fugitive dust. A fog spray shall be set up to prevent cement dust from traveling off site. During mixing of the reclaimed material (asphalt, base course, soil) and Portland cement, the percentage of moisture in the reclaimed material, at the time of cement application, shall not exceed the quantity that will permit a uniform and intimate mixture of reclaimed material and cement during mixing operations.
- The specified quantity of cement shall be spread uniformly on the reclaimed material. Cement that has been displaced shall be replaced before mixing is started. After the cement has been applied, it shall be mixed with the reclaimed material and sufficient water for compaction. Water shall be added, as required, during the mixing operation to provide a moisture content of $-1/+2$ percent of optimum moisture content of mixture as determined by ASTM D-558.
- F. PROCESS. The following process shall be used to construct the reclaimed base for this project.
1. The existing asphalt pavement shall be milled a total depth of 3 inches
 2. The exposed base and any remaining asphalt shall be pulverized and mixed to a depth of 10 inches. The mixed material shall be rolled down and excess material shall be removed such that the top of the grade will be 4.5 inches below final asphalt grade.
 3. The cement shall be mixed at the required amount per square yard to a depth of 9 inches. Water shall be introduced into the mixing drum during mixing of the pulverized material and cement.
 4. The mixture shall be compacted in accordance with Section 2.3(G).
- G. COMPACTION. Immediately upon completion of the mixing operations, the mixture shall be thoroughly compacted. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density of 98 percent of the maximum dry density determined by ASTM D-558.
- H. TESTING. For the purposes of testing for compaction the stabilized material shall be divided into lots consisting of 1200 square yard. Each lot shall be divided into three sublots of 400 square yards each. One density test shall be performed in each subplot. The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D-6938. The compaction shall be considered to be satisfactory when the average of the three tests is 98 percent of the maximum dry density with no individual test being less than 96 percent of the maximum dry density. The maximum dry density shall be determined in accordance with with ASTM D 558. Any mixture that has not been compacted shall not be left undisturbed for more than 30 minutes.
- I. FINISHING. Finishing operations shall be completed during daylight hours, and the completed stabilized material shall be formed to the required lines, grades, and cross section. Light imprints from compaction equipment may remain in place as long as they do not exceed $\frac{1}{4}$ inch in depth.
1. This work should be completed within 3 hours from beginning of the mixing operation.
- J. CONSTRUCTION JOINTS. At the end of each day's run, a transverse construction joint shall be formed as necessary by a header or by cutting back into the compacted material to form a true vertical face free of loose material. The protection provided for construction joints shall permit the placing, spreading, and compacting of base material without injury to the work previously laid. Where it is necessary to operate or turn any equipment on the completed base course, sufficient protection and cover shall be provided to prevent damage to the finished surface.
- K. PROTECTION AND CURING. After the stabilized material has been finished as specified herein, it shall be protected against drying for a period of 3 days. The material shall be primed

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with an approved bituminous material. Approved primes include CRS-2 and AEP-Special. Other primes will be considered. The prime rate shall be 0.12 to 0.20 gallons per square yard. The contractor shall maintain the surface of the stabilized material in a moist condition prior to application of prime. throughout the curing period. The prime shall be applied as soon as possible, but no later than 24 hours after the completion of finishing operations.

- L. MAINTENANCE. The Contractor shall be required to maintain, at his/her own expense, the entire base course within the limits of his/her contract in a condition satisfactory to the Engineer from the time he starts work until all the work has been completed. Maintenance shall include immediate repairs of any defects that may occur either before or after the cement is applied. The work shall be done by the Contractor at his/her own expense and repeated as often as necessary to keep the area intact at all times. Repairs shall be made in a manner that will insure restoration of a uniform surface and the durability of the part repaired. Faulty work must be replaced for the full depth of treatment. Any low areas shall be remedied by replacing the material for the full depth of treatment rather than by adding a thin layer of soil-cement to the completed work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Execution Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to for earthwork operations to begin.
 - 1. Verify gradients and elevations of base are correct, and base is dry.
- C. Report in writing to Contracting Officer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the United States Postal Service.

3.2 EXCESS MATERIAL DISPOSAL

- A. Excess material from the stabilization process shall be disposed of as directed by the project engineer. Contractor to verify if County can use material before disposal.

3.3 METHOD OF MEASUREMENT

- A. The quantity of stabilized material to be paid as a lump sum under REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE. Portland cement shall be considered incidental to the work.

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3.4 REQUIRED SUBMITTALS

- A. Laboratory mix design results.
- B. Cement – Submit certification for Type I or I/II Portland cement. The manufacturer and source of supply shall not change from the submittal. All tanker loads of cement delivered to the site shall be accompanied with a certified delivery ticket showing source of manufacture and tons.
- C. Prime - Submit certification for prime used as a curing material for the stabilized material.

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SECTION 32 11 23

AGGREGATE BASE COURSE

PART 1 GENERAL

1.1 DESCRIPTION

- A. The WORK to be performed includes the preparation of the aggregate base course foundation; and the production, stockpiling, hauling, placing, and compacting of aggregate base course.
- B. Aggregate base course will be used in driveways, pavements cuts, temporary maintenance of traffic, and at locations directed by the ENGINEER.

1.2 RELATED SECTIONS

- A. The following is a list of SPECIFICATIONS which may be related to this section:
 - 1. Section 31 23 33, Trenching and Backfilling

1.3 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
 - 1. American Association of State Highway and Transportation Officials (AASHTO).
 - a. M147, Standard Specification for Materials for Aggregate and Soil- Aggregate Subbase, Base, and Surface Courses.
 - b. T11, Standard Method of Test for Materials Finer Than 75 m (No. 200) Sieve in Mineral Aggregates by Washing.
 - c. T27, Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates.
 - d. T89, Standard Specification for Determining the Liquid Limit of Soils.
 - e. T90, Standard Specification for Determining the Plastic Limit and Plasticity Index of Soils.
 - f. T96, Standard Specification for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 - g. T99, Standard Specification for the Moisture-Density Relations of Soils Using a 2.5 kg (5.5 pound) Rammer and a 305 mm (12 in) Drop.
 - h. T180, Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18-in) Drop.
 - i. T190, Standard Specification for Resistance R-Value and Expansion Pressure of Compacted Soils.
 - j. T265, Standard Method of Test for Laboratory Determination of Moisture Content of Soils.
 - k. T310, Standard Specification for In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
 - 2. ASTM International (ASTM).
 - a. C88, Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
 - b. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³)).
 - c. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³(2,700 kN-m/m³)).

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- d. D1883, Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.
- e. D2419, Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
- f. D4791, Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.
- 3. North Carolina Department of Transportation (NCDOT)
 - a. Standard Specifications for Roads and Structures, ABC Stone.

1.4 SUBMITTALS

- A. Provide samples of all specified materials prior to delivery to the Site.
- B. Submit certified laboratory test certificates for all items required in this section.
- C. Submit tickets for each load of aggregate.

1.5 MEASUREMENT AND PAYMENT

- A. The quantity of stone to be paid for will be the number of tons of ABC stone which has been used as directed by the Engineer. Stone will be measured by being weighed in trucks on approved platform scales or by other approved weighing devices. No deduction will be made for moisture levels in stone at time of weighing.
- B. The quantity of stone will be paid for at the contract unit price per ton for "ABC Stone Base."
- C. Price and payment will be full compensation for all work covered by this Article including but not limited to furnishing, hauling, placing, compacting, spreading, shaping, dressing, and maintaining the incidental ABC stone base.
- D. The County reserves the right to deduct for payment stone that has been wasted by the CONTRACTOR through improper procedures or negligent.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Aggregates: Graded stone material shall meet the most current standards listed for ABC Stone in NCDOT's "Standard Specifications for Roads and Structures."

PART 3 EXECUTION

3.1 PREPARATION OF FOUNDATION

- A. Prepare and construct foundation of ABC with a uniform shape and surface. Repair depressions, holes, and other non-uniform areas of the foundation prior to placing ABC stone.

3.2 HAULING AND PLACEMENT

- A. Exercise care in transporting and placing stone. Do not waste stone.
- B. Comply with NCDOT Standard Specifications for Roads and Structures, Section 520.

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3.3 **COMPACTION**

- A. If required by the Engineer, machine and compact the layer of base within 48 hours of placement.
- B. The surface of each layer shall be kept true and smooth at all times.
- C. Refer to and comply with NCDOT Standard Specifications for Roads and Structures, Section 520.

3.4 **ROADS**

- A. Place ABC stone as directed by Engineer for repair and restoration of driveways and stone roadways.
- B. For pavement cuts, place and compact stone in 6" lifts. Compact to a minimum of 95% of the maximum standard proctor density (ASTMD698).

3.5 **SHOULDER CONSTRUCTION**

- A. Place ABC material on shoulders at the existing location and elevation. Uniformly spread and compact as required to match existing.
- B. No equipment shall be used which by its design or through its manner of operation will damage the pavement or curbs.
- C. Place base course material directly on the shoulder area. Materials that are deposited outside the shoulder area shall not be compensated for as determined by ENGINEER.
- D. Broom excess material from pavement.

END OF SECTION

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ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Bituminous concrete paving.
 - 2. Surface course.
 - 3. Binder course.
 - 4. Paving base course.
- B. Related Documents: Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. Earth Moving: Earthwork for Pavement.
 - 2. Concrete Paving: Concrete paving, curbs and sidewalks.
 - 3. Pavement Markings: Painted pavement markings.

1.2 REFERENCES

- A. Asphalt Institute (AI):
Mix Design Methods for Asphalt Concrete and Other Hot Mix Types.
 - 1. Asphalt Plant Manual.
 - 2. Asphalt Paving Manual.
 - 3. Basic Asphalt Emulsion Manual.
- B. American Society for Testing and Materials (ASTM):
 - 1. Specification for Mineral Fiber for Bituminous Paving Mixtures.
 - 2. Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 Pound Rammer and 12 inch Drop.
 - 3. Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens.
 - 4. Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 Pound Rammer and 18 inch Drop.
 - 5. Test Method for Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus.
 - 6. Specification for Cationic Emulsified Asphalt.
 - 7. Practice for Selection of Cutback Asphalt.
 - 8. Test Method for Bulk Specific Gravity and Density of Nonabsorbative Compacted Bituminous Mixtures.
 - 9. ASTM D 3381 - Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.
 - 10. Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
 - 11. Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

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- C. American Association of State Highway and Transportation Officials (AASHTO):
 - 1. Particle Size Analysis of Soils.
- D. North Carolina Department of Transportation (NCDOT):
 - 1. NCDOT, Standard Specifications for Roads and Structures.

1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Provide asphalt-aggregate mixture as recommended by local or state paving authorities to suit project conditions. Use locally available materials and gradations which meet standard state highway specifications and exhibit satisfactory records of previous installations.

1.4 SUBMITTALS

- A. Submittal Procedures: Procedures for submittals.
 - 1. Assurance/Control Submittals:
 - a. Design Data:
 - 1) Submit design mix following format indicated Asphalt Institute Manual MS-2, Marshall Stability Method; including type/name of mix, gradation analysis, grade of asphalt cement used, Marshall Stability (pounds), flow, effective asphalt content (percent), and direct references to applicable state highway department specification sections for each material.
 - 2) Provide design mixture listed in current edition of applicable state highway department specifications.
 - 3) Use mix designs prepared within 3 years maximum.
 - 4) Provide documentation of state highway limitations, if any, on use of recycled content materials.
 - b. Certificates: Submit materials certificate to Testing Laboratory signed by material supplier and Contractor, certifying that materials comply with, or exceed, the requirements specified herein.
 - c. Qualification Documentation: Paving installer documentation of experience indicating compliance with specified qualification requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the Work of this Section with minimum 5 years documented experience, include references.
- B. Asphalt Concrete Production Facility:
Production facility for asphalt concrete, tack coat materials, and other bitumastic materials shall be certified by the NCDOT for furnishing such materials for NCDOT highways.
- C. Regulatory Requirements:
 - 1. Conform to applicable requirements for paving work on public property.
 - 2. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Use temporary striping, flagmen, barricades, warning signs, and warning lights as required.

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3. Comply with applicable requirements of NCDOT Standard Specifications for Roads and Structures Division 6 of the most current publication.

1.6 PROJECT CONDITIONS OR SITE CONDITIONS

A. Jobsite Requirements:

1. Apply prime and tack coats when ambient temperature is above 40 degrees F, and when temperature has been above 35 degrees F for 12 hours immediately prior to application. Do not apply when base is wet, contains excess moisture, or during rain.
2. Construct bituminous concrete paving when atmospheric temperature is above 40 degrees F.

1.7 MATERIALS

A. Base Course: As indicated on Drawings, complying with applicable state highway specifications regarding source, quality, gradation, liquid limit, plasticity index and mix proportioning.

1. Asphalt Cement: Fabricated from minimum 15 percent recycled asphalt and complying with ASTM D 3381; Table 2 AC-10, AC-20, or AC-30, viscosity grade, depending on local mean annual air temperature as indicated below:

TEMPERATURE CONDITION	ASPHALT GRADES
Cold, mean annual air temperature at 45 degrees F or lower	AC-10 85/100 pen.
Warm, mean annual air temperature between 45 degrees F and 75 degrees F	AC-20 60/70 pen.
Hot, mean annual air temperature at 75 degrees F or higher	AC-30

- B. Prime Coat: A medium curing cut-back asphalt or an asphalt penetrating prime coat consisting of either ASTM D 2397 or ASTM D 2399, MC- 30 or SS-1h, or comparable material. Comparable item will be approved by Engineer and Guilford County Representative.
- C. Bituminous Materials: Bituminous concrete plant mixes shall conform to the requirements of the applicable sections of Division 6 of the most current "Standard Specifications for Roads and Structures" published by NCDOT.
- D. Tack Coat: Emulsified asphalt; ASTM D 2397 or ASTM D 2399, SS-1h, CSS-1, or CSS-1h,(or comparable), diluted with one part water to one part emulsified asphalt.
- E. Mineral Filler: Rock or slag dust, hydraulic cement, or other inert material complying with AASHTO M-17/ASTM D 242, if recommended by applicable state highway department standards.

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- F. Asphalt-Aggregate Mixture: Unless otherwise indicated on Drawings, the Design Mix shall have a minimum stability based on a 50-blow Marshall complying with ASTM D 1559 of 1000 pounds with a flow between 8 and 16. The Design Mix shall be within sieve analysis and bitumen ranges below:

SIEVE ANALYSIS OF MIX

Square Sieve	Total Percent Passing	Percent Tolerance
1/2 inch	80 - 100	5
3/8 inch	65 - 93	4
No. 8	0 - 55	4
No. 50	2 - 27	2
No. 200	0 - 10	2

Percent Bitumen by Weight of Total Mix: 5.0 - 8.5.

Percent Air Voids: 3-6.

Percent Aggregate Voids Filled with Asphalt Cement: 70 - 82.

Allowable Variance of Percent Bitumen by Weight of Total Mix: 0.4.

1.8 EQUIPMENT

- A. Maintain equipment in satisfactory operating condition and correct breakdowns in a manner that will not delay or be detrimental to progress of paving operations.

PART 2 - EXECUTION

2.1 EXAMINATION

Execution: Verification of existing conditions before starting work.

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to for earthwork operations to begin.
1. Verify gradients and elevations of base are correct, and base is dry.
- B. Report in writing to Contracting Officer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to Guilford County.

2.2 BASE COURSE PLACEMENT

- A. Perform base course construction in a manner that will drain surface properly at all times and at the same time prevent runoff from adjacent areas from draining onto base course construction.

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- B. Compact base material to not less than 98 percent of optimum density as determined by ASTM D 698 or 95 percent of optimum density, as determined by ASTM D 1557, unless otherwise indicated on the Drawings.
- C. Granular Base: Construct to thickness indicated on Drawings. Apply in lifts or layers not exceeding 6 inches, measured loose.
- D. Sand/Shell Base: Construct to thickness indicated on Drawings. Apply in lifts or layers not exceeding 4 inches, measured loose.
- E. Asphalt Institute Type IV Mix for Full Depth Asphalt Base: Construct to thickness indicated on Drawings in lifts or layers not exceeding 3 inches, measured loose.
- F. Asphalt Institute Type VI, VII, or VIII Mixes for Hot-Mix Sand Asphalt Bases: Construct to thickness indicated on Drawings. Apply in lifts or layers not exceeding 3 inches, measured loose.
- G. The materials and construction methods used for the pavement structure replacement shall meet all the requirements of the most current "Standard Specifications for Roads and Structures" published by the NCDOT.
- H. Soil Cement Stabilized Base: Construct to thickness and strength as indicated on Drawings and in accordance with applicable state highway specifications. If not indicated on the Drawings, the minimum compressive strength shall be 500 pounds per square inch, tested at 28 days

2.3 APPLICATIONS

- A. Prime Coat:
 - 1. Apply bituminous prime coat to all base material surfaces where bituminous concrete paving will be constructed.
 - 2. Apply bituminous prime coat in accordance with applicable state highway specifications.
 - 3. Apply at minimum rate of 0.25 gallon per square yard over compacted base material. Apply to penetrate and seal, but not flood surface.
 - 4. Make necessary precautions to protect adjacent areas from overspray.
 - 5. Cure and dry as long as necessary to attain penetration of compacted base and evaporation of volatile substances.
- B. Tack Coat:
 - 1. Apply to contact surfaces of previously constructed bituminous concrete base courses or portland cement concrete and surfaces abutting or projecting into bituminous concrete or into bituminous concrete pavement.
 - 2. Apply tack coat to bituminous concrete base course or sand asphalt base course. Apply emulsified asphalt tack coat between each lift or layer of full depth bituminous concrete and sand asphalt bases and on surface of all such bases where bituminous concrete paving will be constructed.
 - 3. Apply emulsified asphalt tack coat in accordance with applicable state highway specifications.
 - 4. Apply at minimum rate of 0.05 gallon per square yard of surface.
 - 5. Allow to dry until at proper condition to receive paving.

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2.4 BITUMINOUS CONCRETE PLACEMENT

- A. Place bituminous concrete mixture on completed compacted subgrade surface, spread, and strike off. Spread mixture at following minimum temperatures:
 - 1. When ambient temperature is between 40 degrees F and 50 degrees F, mixture temperature equal to 285 degrees F.
 - 2. When ambient temperature is between 50 degrees F and 60 degrees F, mixture temperature equal to 280 degrees F.
 - 3. When ambient temperature is higher than 60 degrees F, mixture temperature equal to 275 degrees F.
- B. Whenever possible, all pavement shall be spread by a finishing machine; however, inaccessible or irregular areas may be placed by hand methods. The hot mixture shall be spread uniformly to the required depth with hot shovels and rakes. After spreading, the hot mixture shall be carefully smoothed to remove all segregated course aggregate and rake marks. Rakes and lutes used for hand spreading shall be of the type designed for use on asphalt mixtures. Loads shall not be dumped faster that they can be properly spread. Workers shall not stand on the loose mixture while spreading.
- C. Paving Machine Placement: Apply successive lifts of bituminous concrete in transverse directions with the surface course placed in the direction of surface-water flow. Place in typical strips not less than 10 feet wide.
- D. Joints: Make joints between old and new pavements, or between successive days and work in a manner that will provide a continuous bond between adjoining work. Construction joints shall have same texture, density, and smoothness as other sections of bituminous concrete course. Clean contact surfaces of all joints and apply tack coat.

2.5 ROLLING AND COMPACTION

- A. The mixture, after being spread, shall be thoroughly compacted by rolling as soon as it will bear the weight of the rollers without undue displacement. The number, weight, and types of rollers and sequences of rolling operations shall be such that the required density and surface are consistently attained while the mixture is in a workable condition.
- B. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- C. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling with hot material.
- D. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- E. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.

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- F. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut out such areas and fill with fresh, hot bituminous concrete. Compact by rolling to maximum surface density and smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

2.6 CONSTRUCTION

- A. Site Tolerances:
 - 1. Paving Surface Smoothness: Maximum allowable 10 foot straightedge tolerance for smoothness.
 - a. Base Course Surface: 1/4 inch.
 - b. Wearing Surface Course: 3/16 inch.

2.7 FIELD QUALITY CONTROL

- A. Quality Requirements: Field inspection and testing procedures
- B. Site Tests:
 - 1. Paving Base Course: Perform testing of in-place base courses for compliance with requirements for thickness, compaction, density, and tolerance.
 - a. Moisture/Density Test: ASTM D 698 or ASTM D 1557.
 - b. Mechanical Analysis Test: AASHTO T-88.
 - c. Plasticity Index Test: ASTM D 4318.
 - d. Base Material Thickness Test: Minimum one test for every 20,000 square feet.
 - e. Base Material Compaction Test: Minimum one test for every 20,000 square feet.
 - f. Field Density Tests: Perform testing of in-place base courses for compliance with requirements for density using one of the following methods:
 - 1) Sand-cone Method: ASTM D 1556.
 - 2) Balloon Method: ASTM D 2167.
 - 3) Nuclear Method: ASTM D 2922, Method B (Direct Transmission).
 - g. Test each source of base material for compliance with applicable state highway specifications.
 - 2. Asphalt Concrete Paving: Perform testing of in-place asphalt concrete paving courses for compliance with requirements for thickness, compaction, and surface smoothness.
 - a. Thickness: ASTM D 3549; Thickness shall not be less than thickness specified on Drawings.
 - b. Surface Smoothness: Testing shall be performed on the finished surface of each asphalt paving course using 10 foot straightedge applied parallel with, and at right angles to centerline of paved areas. Smoothness shall not be less than tolerances specified herein.
 - 3. Compaction: Field density test for in place materials shall be performed by examination of field cores in accordance with one of the following standards:
 - a. Bulk Specific Gravity of Paraffin-Coated Specimens: ASTM D 1188, minimum one core per 20,000 square feet.
 - 1) Standard Duty Areas: Minimum 3 cores.
 - 2) Heavy Duty Areas: Minimum 4 cores.

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- b. Bulk Specific Gravity Using Saturated Surface-Dry Specimens: ASTM D 2726, minimum one core per 20,000 square feet.
 - 1) Standard Duty Areas: Minimum 3 cores.
 - 2) Heavy Duty Areas: Minimum 3 cores.

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CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Concrete Pavement
 - 2. Concrete walks and terraces.
 - 3. Concrete curbs, and curb and gutters.
 - 4. Concrete shall conform to the requirements of section 1000 of the most current NCDOT "Standard Specifications for Roads and Structures."
- B. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. Earth Moving: Earthwork for pavement.
 - 2. Asphalt Paving.
 - 3. Cast-In-Place Concrete: Concrete requirements for pavement.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. Specifications for Structural Concrete.
 - 2. Standard Practice for Curing Concrete.
- B. American society for Testing and Materials (ASTM):
 - 1. Specification for Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement.
 - 2. Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 3. Standard Specification for Chemical Admixtures for Concrete.
 - 4. Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
 - 5. Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

1.3 SUBMITTALS

- A. Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Submit product data for the following:
 - a. Joint filler.
 - b. Joint sealant.
 - c. Concrete admixtures.
 - d. Concrete curing compounds.
 - 2. Assurance/Control Submittals:

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- a. Concrete Mix Design: Submit three copies of each proposed mix design for each class of concrete in accordance with ACI 301, Sections 3.9 "Proportioning on the basis of previous field experience or trial mixture", or 3.10 "Proportioning based on empirical data". Submit separate mix design for concrete to be placed by pumping, in addition to the mix design for concrete to be placed directly from the truck chute.
- b. Include the following information in concrete mix design:
 - 1) Proportions of cement, fine and coarse aggregate, and water.
 - 2) Water-cement ratio, 28-day compressive design strength, slump, and air content.
 - 3) Type of cement and aggregate.
 - 4) Aggregate gradation.
 - 5) Type and dosage of admixtures.
 - 6) Special requirements for pumping.
 - 7) Range of ambient temperature and humidity for which design is valid.
 - 8) Special characteristics of mix which require precautions in mixing, placing, or finishing techniques to achieve finished product specified.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Conform to ACI 305R when mixing and placing concrete during hot weather.
- C. Conform to ACI 306R when mixing and placing concrete during cold weather.
- D. Regulatory Requirements:
 - 1. Conform to applicable requirements for paving work on public property.
 - 2. Contractor shall maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping, flagmen, barricades, warning signs, and warning lights as required.

PART 2 - PRODUCTS

2.1 FORM AND REINFORCING MATERIAL

- A. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required.
 - 1. APA Exterior Plyform BB with a medium density, smooth, hard, fused resin fiber overlay, or metal forms.
 - 2. Form Oil: Coat forms with nonstaining type coating that will not discolor or deface surface of concrete. Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "Eucoslip" - Euclid Chemical Co., Cleveland, OH (800) 321-7628.
 - b. "Form Coating" - Nox-Crete Chemicals, Omaha, NE (800) 669-2738.
 - c. Substitutions: Under provisions of Section 016000.

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- B. Curb, Curb and Gutter Forms: Use flexible spring-steel forms or laminated boards to form radius bends. Tolerance: Not to deviate more than 1/4 inch in 10 feet in grade and alignment.
- C. Reinforcing:
 - 1. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A 185. Furnish in flat sheets, not rolls, unless otherwise acceptable to Owner.
 - 2. Reinforcing Bars: Deformed steel bars, ASTM A 615, Grade 60.
- D. Reinforcing Accessories:
 - 1. Reinforcing Accessories: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. Dayton Superior Corp., Miamisburg, OH (800) 745-3700.
 - b. Heckmann Building Products, Inc., Chicago, IL (800) 621-4140.
 - c. Hohmann & Barnard, Inc., Hauppauge, NY (800) 645-0616.
 - d. Richmond Screw Anchor Co., Inc., Ft. Worth, TX (817) 284-4981.
 - 2. Conform to Concrete Reinforcing Steel Institute Manual of Standard Practice. Include spacers and chairs with plastic tipped legs, ties and other devices necessary for properly assembling, placing, spacing and supporting forms and reinforcement in place.
 - 3. Section 016000 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

2.2 CONCRETE MATERIALS

- A. Comply with requirements of applicable Section 033000 for concrete materials, admixtures, bonding materials, curing materials, surface sealers and others as required.
- B. Cement:
 - 1. Portland Cement: ASTM C150 Type 1 or comparable. Comparable material must be approved by the Engineer and a Guilford County Representative.
 - 2. High-early Strength Portland Cement: ASTM C150, Type III, or comparable. Comparable must be approved by the Engineer and a Guilford County Representative
- C. Aggregates: ASTM C33.
 - 1. Fine aggregate shall be natural sand, or sand prepared from stone or gravel. Grains shall; be clean, hard, durable, uncoated and free from silt, loam and clay.
 - 2. Coarse Aggregates: Crushed stone, gravel, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces free from adherent coatings. Maximum size of pieces shall be 3/4" to #4 except for footings, which may be 1-1/2". The maximum size of aggregate may also be not larger than one fifth of the narrowest dimension between forms, nor larger than three fourths of the minimum clear spacing between reinforcing bars.
- D. Water: Clean and free from injurious amounts of oil, acids, salts, organic or other deleterious matter.
- E. Air Entrainment: ASTM C260.
 - 1. Use air-entrained concrete for exterior exposed concrete including walls, walks, paving, etc. where minimum daily temperatures are expected below 38 degrees F during pouring or subsequent 38 day curing period.

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2. Proportion air-entraining concrete to attain minimum 28-day compressive strength specified.
3. Total Air Entrainment in Concrete: Not less than four percent nor more than six percent volume of concrete.

F. Admixtures:

1. May be used at contractors option to provide workability at low slumps, increased compressive strength, retardation or acceleration of the concrete.
2. Chemical Admixtures: ASTM C494. Mineral Admixtures: ASTM C618.
3. The cement factor shall not be reduced and changes shall be made in the other mix proportions to ensure the minimum strength requirements.
4. Use of admixtures approved in writing by Architect. No additional expense to the Owner will be allowed.
5. No calcium chloride shall be used.
6. Before any admixture is accepted for use, the Contractor shall submit certified laboratory reports on each additive material to the architectural consultant. The report shall show the following:
 - a. Confirmation of compliance with the applicable ASTM Standard.
 - b. Evaluation of the effects of the admixture on the properties of the concrete to be made on the job, including consideration of the anticipated ambient conditions on the job, and proposed construction procedures.
 - c. Determination of within-lot uniformity of product proposed for use.

2.3 CONCRETE MIXES

A. Concrete Proportions:

1. Concrete shall be homogenous, and when hardened, shall have the required strength, resistance to deterioration, durability, water tightness and the properties as specified.
2. Minimum concrete strength at 28 days shall be;
 - a. 3,000 psi for walks, terraces, curbs and gutters.
 - b. 4,000 psi for concrete pavement and pads.
3. Slump of concrete:
 - a. Pavement: 2-1/2 inch minimum to 4 inch maximum.
 - b. Ramps and sloping surfaces: Not more than 3 inches.

B. Ready-Mix Concrete:

1. Ready-mix concrete shall conform to ASTM C94. The mixing agitation shall begin within 30 minutes, and the concrete shall be discharged from the truck within one hour after the water has been added to the concrete mix.
2. Delivery tickets are to accompany each concrete truck and shall be kept in the job superintendent's file. Delivery tickets must indicate the following information or be subject to rejection:
 - a. Name of project.
 - b. Supplier of concrete.
 - c. Truck identity and ticket serial number.
 - d. Date of delivery.
 - e. Brand of cement.
 - f. Cement content.
 - g. Strength classification.
 - h. Batching time.

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- i. Point of deposit.
 - j. Total amount of water.
 - k. Weight of aggregate.
 - l. Daily temperature.
 - m. Number of cubic yards in load.
 - n. Admixture content.
 - o. Name of Contractor.
 - p. Name of driver.
 - q. Time loaded and first mixing of concrete.
 - r. Reading of revolution counter.
3. Quantity of water used for each batch shall be accurately measured.

2.4 JOINT MATERIALS

- A. Sealed expansion and contraction joints: Filler of nonbituminous rubber or cork conforming to ASTM D1752.
- B. Non-sealed joints:
- 1. Non-sealed Joints: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "Flexcell" - Celotex Corp., Tampa, FL (813) 873-1700.
 - b. "Seal Tight Fiber Expansion Joint" - W.R. Meadows, Inc., Hampshire, IL (800) 342-5976.
 - 2. Filler premolded bituminous type conforming to ASTM D1751.
 - 3. Product Requirements: Product options and substitutions. Substitutions: Permitted.
- C. Noncompressive Filler:
- 1. Noncompressive Filler: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "Styrofoam SM" - Dow Chemical Co., Midland, MI (517) 636-0754.
 - b. "Foamular" - Owens Corning, Toledo, OH (800) 828-7155.
 - 2. 2 inch or 1 inch thick sheets.
 - 3. Product Requirements: Product options and substitutions. Substitutions: Permitted.
- D. Compressive Filler:
- 1. Compressive Filler: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "Ethafom" - Dow Chemical Co., Midland, MI (800) 322-8723.
 - b. "Rodofoam No. 423" - Sternson Group, Brampton, ON (800) 265-8417.
 - 2. 2 inch or 1 inch thick sheets, compression modulus within the range of 15 to 25 pounds per square inch per inch.
 - 3. Product Requirements: Product options and substitutions. Substitutions: Permitted.
- E. Filler Adhesive for Noncompressive Filler and Compressive Filler:
- 1. Filler Adhesive: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "General Purpose Mastic No. 11" - Dow Chemical Co., Midland, MI (800) 322-8723.
 - b. "Rodofast" - Sternson Group, Brampton, ON (800) 265-8417.
 - 2. Product Requirements: Product options and substitutions. Substitutions: Permitted.

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- F. Slab-on-grade Construction Joints: Provide a full slab depth 24 gauge metal preshaped key, approximate depth of key to be 1/4 slab thickness and a key width of about 1/10 slab thickness.
- G. Joint Sealants: ASTM C920. Non-priming, pourable, self-leveling polyurethane. Subject to compliance with project requirements manufacturers offering joint sealants which may be incorporated in the Work include, but are not limited to the following:
 - 1. Sonolastic Paving Joint Sealant, by Sonneborn, Shakopee, MN (800) 433-9517.
 - 2. Sonomeric CT 1 Sealant, by Sonneborn, Shakopee, MN (800) 433-9517.
 - 3. Sonomeric CT 2 Sealant, by Sonneborn, Shakopee, MN (800) 433-9517.
 - 4. Vulkem 45, by Mameco, Cleveland, OH (800) 321-6412.
 - 5. Chem-Caulk, by Bostik, Middleton, MA (800) 726-7845.
 - 6. "THC-900" - Tremco, Beachwood, OH (800) 562-2728.
 - 7. Section 016000 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

2.5 CURING MATERIALS

- A. Sealers:
 - 1. Sealers: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
 - a. "Polyseal" - W.R. Meadows, Inc., Hampshire, IL (800) 342-5976.
 - b. "Kure-N-Seal" - Sonneborn, Shakopee, MN (800) 433-9517.
 - c. "Cure-Hard" - W.R. Meadows, Inc., Elgin, IL (312) 683-4500.
 - 2. ASTM C156 and ASTM C309, Type I. Material shall become integral part of concrete and leave slab free of residue or film.
 - 3. Product Requirements: Product options and substitutions. Substitutions: Permitted.
- B. Membrane: Opaque-white polyethylene sheet, 0.006 inch thick, meeting requirements of ASTM C171.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Execution Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to for earthwork operations to begin.
 - 1. Verify gradients and elevations of base are correct, and base is dry.
- C. Report in writing to Contracting Officer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the United States Postal Service.

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3.2 SUBGRADE PREPARATION

- A. Thoroughly wet subgrade and then compact with two passes of a 500 pound roller.
- B. Pumping: Where concrete paving or sidewalks, and curbs are to be placed, yielding material deflecting more than 1/2 inch under a 500 lb. roller shall be removed to a depth of not less than 4 inches below subgrade elevation and replaced with an approved granular material which shall then be compacted as described above.
- C. The subgrade shall be in a moist condition when the concrete is placed. In cold weather the subgrade shall be prepared and protected so as to provide a subgrade free from frost when the concrete is deposited.

3.3 FORM CONSTRUCTION

- A. Install sufficient quantity of forms to allow continuous progress of the work and so that forms can remain in place at least 24 hours after concrete placement.
- B. Check complete formwork for grade and alignment to the following tolerances:
 - 1. Top of form: Not more than 1/8 inch in 10 feet.
 - 2. Vertical face: Longitudinal axis not more than 1/4 inch in 10 feet.

3.4 PLACING REINFORCEMENT

- A. Support reinforcing and wire securely together to prevent displacement by construction loads and traffic, or the placing of concrete. For slabs on grade, supporting pieces of concrete blocks or bricks may be used.
- B. Place wire mesh reinforcing two inches above bottom of slab unless otherwise indicated.
- C. Reinforcement shall be kept clean from oil, dirt and loose mill scale or other coatings which might destroy the concrete bond. Remove tags and markings prior to concrete placement.
- D. Do not place concrete until reinforcement has been inspected and approved by local authorities, if required.

3.5 CONCRETE PLACEMENT AND FINISHING

- A. Tamp and consolidate concrete with a suitable wood or metal tamping bar and the surface shall be finished to grade with a wood float.
- B. Finished surfaces shall not vary more than 3/16 inch from the testing edge of a 10 foot straightedge.
- C. Curb Expansion Joints: Fill joints with 1/2 inch thick joint filler strips conforming to ASTM D1751 or ASTM D1752.

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- D. Contraction Joints: Divide the surface of paving, walks and terraces into rectangular areas not to exceed 5 feet 0 inches each way.
 - 1. Cut a groove in the top portion of the slab to a depth of at least one-fourth of the slab thickness using a jointer or by sawing a groove in the hardened concrete with a power-driven saw.
 - 2. Membrane-cured surface damaged during the sawing operations shall be resprayed as soon as the surface becomes dry.
- E. Slab Finishes: ACI 301, paragraph 11.7 and as follows:
 - 1. Broom Finish: On stair treads with abrasive nosings and on walks, unless other finishes have been indicated or specified.
 - 2. Broom or Belt Finish: On level walks. Broom in direction perpendicular to travel and approved sample panel. Submit joint pattern layout prior to starting work.

3.6 TOLERANCES

- A. Horizontal slabs: Finished surfaces true with no deviation in excess of 1/8 inch when tested with a 10 foot straightedge, non-accumulative. No coarse aggregate showing.
- B. Steps:
 - 1. Variation in steps within a flight of stairs:
 - a. Rise: 1/8 inch.
 - b. Tread: 1/4 inch.
 - 2. Variation in consecutive steps:
 - a. Rise: 1/16 inch.
 - b. Tread: 1/8 inch.

3.7 EXPANSION JOINTS

- A. Install transverse expansion joints at returns and 15 feet on center.
- B. Install longitudinal expansion joints where curbs and paved areas abut each other, buildings, other concrete slabs and pads or vertical restraints.
- C. Place joint filler with top edge 1/4 inch below the surface and shall be held in place with steel pins or other devices to prevent warping of the filler during floating and finishing.
- D. Immediately after finishing operations are completed, round joint edges with edging tool having a radius of 1/8 inch. Remove concrete over the joint filler.
- E. At the end of the curing period, clean and fill expansion joints with joint sealer. Fill joints flush with concrete surface. Dummy groove joints shall not be sealed.

3.8 CURING

- A. Immediately after the finishing operations, the exposed concrete surface shall be cured for 7 days by the mat, impervious sheet, or membrane-curing method.

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3.9 BACKFILLING

- A. After curing, remove debris and backfill the adjoining areas, grade and compact to conform to the surrounding area in accordance with the lines and grades indicated.

3.10 PROTECTION

- A. Protect the completed work from damage. Repair damaged concrete and clean concrete discolored during construction. Remove work that is damaged and reconstruct to entire length between regularly scheduled joints. Refinishing damaged portion is not acceptable.
- B. Prevent cars and trucks from driving on new pavement for a minimum of 14 days.

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SECTION 32 92 00

LAWNS AND MEADOWS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope:
 - 1. Provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install all lawns and meadows.
 - 2. Types of products required include the following.
 - a. Topsoil.
 - b. Lawn grass seed.
 - c. Seeding for grass-lined channels
 - d. Seeding for Gentle Slopes
 - e. Inorganic soil amendments.
 - f. Organic soil amendments.
 - g. Fertilizers.
 - h. Mulches.
 - i. Erosion-control materials.
 - j. Accessories.
- B. Coordination:
 - 1. Review installation procedures under other Sections and coordinate the installation of items that must be installed with, or before, lawns and meadows.

1.2 REFERENCES

- A. Standards referenced in this Section are listed below:
 - 1. Association of Official Analytic Chemists, (AOAC).
 - 2. Official Methods of Analysis of AOAC International.
 - 3. Association of Official Seed Analysts, (AOSA).
 - 4. Journal of Seed Technology; Rules for Testing Seeds.
 - 5. American Society for Testing and Materials, (ASTM).
 - 6. ASTM D 75, Practice for Sampling Aggregates.
 - 7. ASTM D 977, Specification for Emulsified Asphalt.
 - 8. ASTM D 5268, Specification for Topsoil Used for Landscape Purposes.
 - 9. ASTM E 329, Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
 - 10. ASTM E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.

1.3 DEFINITIONS

- A. The term "finish grade" shall be used to describe the finished surface elevation of planting soil.

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- B. The term "manufactured topsoil" shall be used to describe soil produced off-Site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil acceptable as a component of loam.
- C. The term "loam" shall be used to describe topsoil that has been mixed with additional organic and inorganic additives, as specified.
- D. The term "percentage pure live seed" shall be defined as the percent (%) purity multiplied by percent (%) germination divided by 100 to equal the percent pure live seed (PLS) and shall be calculated for all seed lots using each seed lot's own unique purity and germination test results. A PLS pound shall be defined as the bulk weight of seed required to equal one pound of 100 percent pure, germinated seed.
- E. The term "subgrade" shall be used to describe the surface of subsoil remaining after completing excavation; or the top surface of a fill or backfill immediately beneath topsoil and which has not been tested for acceptable use as topsoil.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Engage a single landscape installer skilled, trained and with successful and documented experience in the planting of lawns and meadows and with specific skill and successful experience in the installation of the types of materials required; and who agrees to employ only tradesmen with specific skill and successful experience in this type of Work. Submit names and qualifications to ENGINEER along with the following information on a minimum of three successful projects:
 - a. Names and telephone numbers of owner, architects or engineers responsible for projects.
 - b. Approximate contract cost of the lawns and meadows.
 - c. Amount of area installed.
 - 2. Installer's Site Supervisor: Require installer to maintain an experienced full-time landscape supervisor on-Site during the time of preparation for, and planting of, lawns and meadows. Supervisor shall have achieved landscape or horticultural certification acceptable to governing authorities having jurisdiction at the Site.
 - 3. Ratio of laborers to certified landscape supervisors shall not exceed 12 to one. Certified landscape supervisor shall be on-Site throughout the day-to-day performance of the Work of this Section.
 - 4. Application of herbicides, chemicals and insecticides shall be done by personnel licensed to perform such applications by governing authorities having jurisdiction at the Site and in accordance with each manufacturer's instructions provided on each product label.
- B. Soil Testing Laboratory Qualifications:
 - 1. An independent laboratory, recognized by governing authorities having jurisdiction at the Site, with the experience and capability to conduct testing indicated and that specializes in types of soil tests to be performed.
 - 2. To qualify for approval, an independent testing agency shall demonstrate to ENGINEER'S satisfaction, based on evaluation of criteria submitted by testing agency, that it has the experience and capability to satisfactorily conduct the testing indicated

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without delaying the Work, in accordance with ASTM E 329 and as documented according to ASTM E 548.

C. Source Quality Control:

1. Analysis and Standards: Package all products with manufacturer's certified analysis performed in accordance with methods established by AOAC, wherever applicable, or as specified.
2. Seed that has been stored at temperatures, or under conditions not recommended by the seed supplier, or has become wet, moldy, or otherwise damaged, shall not be acceptable. The PLS for each seed lot shall be 75 percent, minimum.
3. Certify that all seed has been stored under conditions recommended by the seed supplier and has not been subjected to conditions damaging to PLS percentages.
4. Seed may be mixed by an approved method on-Site or at the seed supplier's facilities. If the seed is mixed on-Site, each variety shall be delivered in the original containers and shall bear the supplier's certified analysis. Where seed is mixed by the seed supplier, provide ENGINEER with the seed supplier's certified statement as to the composition of the mixture.

1.5 SUBMITTALS

A. Action Submittals: Submit the following:

1. Shop Drawings:
 - a. Schedule for lawn and meadow -planting showing anticipated planting dates for each type of Work.
2. Product Data:
 - a. Manufacturer's product data, specifications and installation instructions for all required materials.
 - b. Composition and analysis of commercial fertilizers and all purchase receipts showing the total quantity actually purchased for this Project.
 - c. PLS for each type of seed and each seed lot. Include bulk weight of seed required to equal one pound of 100 percent pure, germinated seed.

B. Informational Submittals: Submit the following:

1. Certificates:
 - a. Certification of Grass and Wildflower Seed: For each grass-seed monostand and seed mixture, furnish seed supplier's certification stating the botanical and common name, and percentage by weight of each species and variety, and percentage of purity, germination and weed seed. Include the year of production and date of packaging. Certify that seed has been stored in compliance with all recommendations of the seed supplier.
 - b. Certificates of inspection as may be required by governmental authorities to accompany shipments, and manufacturer's certified analysis for soil amendments and fertilizer materials. For standard products submit other data substantiating that materials comply with specified requirements.
2. Test Reports: Submit the following:
 - a. Soil analysis reports for existing soil and imported manufactured topsoil, as specified. Include recommendations for remediating existing soil into acceptable topsoil.
3. Qualifications Data: Submit qualifications data for the following:

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- a. Landscape installer.
 - b. Landscape supervisor.
 - c. Testing agency.
- C. Closeout Submittals: Submit the following:
- 1. Operations and Maintenance Data:
 - a. Submit recommended procedures to be established by OWNER for the maintenance of lawns and meadows for one full year. Submit prior to expiration of required maintenance period.
 - 2. Warranty Documentation:
 - a. Submit written warranty, signed by CONTRACTOR and landscape installer, as specified.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of Materials:
- 1. Do not deliver seed until Site conditions are ready for installation.
 - 2. Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery.
 - 3. Deliver seed in undamaged, original containers, sealed by the supplier and indicating compliance with approved Shop Drawings.
 - 4. Inspect lawn and meadow materials upon arrival at Site. Immediately and permanently remove unacceptable materials from Site.
- B. Storage of Materials:
- 1. Store and cover materials to prevent deterioration. Remove packaged materials that become wet or show deterioration or water marks from the Site.
 - 2. Seed that becomes wet, moldy or damaged during the time of storage on-Site or that has been damaged during transit is not acceptable.

1.7 PROJECT CONDITIONS

- A. Environmental Requirements:
- 1. Proceed with and complete lawn and meadow planting as rapidly as portions of the Site become available. Seeding, mulching, and proper ground cover must be provided for disturbed areas after every 1000 linear feet of utility line construction and on exposed slopes within 21 calendar days and for all other exposed areas within 15 working days or 30 calendar days (whichever is shorter) following completion of any phase of construction.
 - 2. Proceed with planting only when current and forecasted weather conditions are favorable to successful planting and establishment of lawns and meadows.
 - a. Do not spread seed when wind velocity exceeds five miles per hour.
 - b. Do not plant when drought, or excessive moisture, or other unsatisfactory conditions prevail.
 - 3. Herbicides, chemicals and insecticides shall not be used on areas bordering wetlands.
- B. Scheduling:

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1. Coordinate planting with specified extended service periods to provide required service from date of Substantial Completion. Plant during the periods specified in the Contract Drawings.
2. Do not begin lawn and meadow planting until water, acceptable for use and adequate in supply, is available on-Site and can be successfully transported to the areas of Work. Coordinate provision of adequate and acceptable water supply with Project Schedule.
3. Do not proceed with installation of loam until all subgrade utility services have been installed, are operating successfully and have been approved by ENGINEER.

1.8 WARRANTY

- A. General Warranty: The special warranties specified in this Article shall not deprive OWNER of other rights or remedies OWNER may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by CONTRACTOR under the Contract Documents.
- B. Special Warranties: Warranty lawns and meadows through the specified extended service period.

1.9 EXTENDED SERVICE

- A. Maintain seeded areas until the condition of seeded areas is approved and accepted by the ENGINEER and by the NCDENR Land Quality section. This may include additional seeding, topdressing, and watering as directed by the ENGINEER. Water is to be furnished by the City if an acceptable source is available; otherwise, it is to be furnished by the CONTRACTOR, in a method and from a source approved by the ENGINEER, at no additional expense to the contract.
- B. If additional seeding and fertilizer are required after the work has been approved and accepted (due to drought conditions, etc.), then 'Repair Seeding' is to be used at the direction of the ENGINEER.

1.10 MEASUREMENT AND PAYMENT

- A. Measurement
 1. The quantity of seeding and mulching to be paid for will be the actual number of acres of seeding and mulching, measured along the surface of the ground, which has been completed and accepted.
 2. The quantity of fertilizer for seeding to be paid for will be the actual number of tons of fertilizer used which has been completed and accepted.
- B. Payment shall be full compensation for all work of seeding and mulching including but not limited to furnishing all limestone, fertilizer, seed, mulch, asphalt, and other materials; cleanup of vegetation, stones, and other debris prior to seedbed preparation and mulching.

PART 2 PRODUCTS

2.1 MATERIALS

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- A. Topsoil:
1. All soil accepted as topsoil, whether obtained from on-Site or off-Site sources, shall comply with specified topsoil analysis.
 2. Provide fertile, friable, natural loam, surface soil, capable of sustaining vigorous plant growth; free of any admixture of subsoil, clods of hard earth, plants or roots, sticks, stones larger than 1-inch in diameter, or other extraneous material harmful to plant growth, in compliance with ASTM D 5268. Provide topsoil with the following analysis:
 - a. 3/4 inch mesh: 100 percent passing.
 - b. No. 4-sieve: 90 to 100 percent passing.
 - c. No. 200-sieve: 0 to 10 percent passing.
 - d. Clay content of material passing No. 200-sieve not greater than 60 percent, as determined by hydrometer tests.
 - e. pH-adjusted with ferrous sulphate or ground limestone to provide pH 5.5 to pH 7.0 at time of installation of lawns, grass and meadow areas, unless particular species of grass or wildflower stand requires a different pH to meet its growing needs.
 - f. Electrical conductivity of a 1:2 soil-water suspension shall not exceed 1.0 milliohm per centimeter and with less than 200 parts per million of extractable aluminum.
 - g. Cation Exchange Capacity: 5, minimum.
 - h. Organic content not less than five percent, as determined by ignition loss of oven-dried samples passing No. 10-sieve (Muffle Furnace Temperature: 110 plus or minus five degrees C for eight hours).
 - i. Free of pests and pest larvae.
 3. Topsoil Source: Amend existing in place surface soil to produce topsoil, where possible. Verify suitability of surface soil to produce topsoil, as specified. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
 - a. Supplement acceptable surface soil with manufactured topsoil from off Site sources, when quantities available on Site are insufficient to complete the Work.
- B. The seed quality requirements are as follows:
1. Seed Mixture: Provide fresh, clean, new crop seed complying with the tolerance for purity and germination established by AOSA. Provide seed of the grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, specified.
 2. Seed shall be entirely free from bulbets or seed of Bermuda Grass, Johnson Grass, Nutgrass, Sandbur, Wild Onion, Wild Garlic, Wtichweed, and Crotalaria.
 3. Seed shall now contain more than 2%, singly or collectively, of crop seed other than the kind or kinds of seed specified.
 4. Seed quality requirements shall comply with the Contract Drawings.
- C. Wetland, Bankfull Natural Channels, and Natural Buffers Seeding: Refer to Contract Drawings for seeding requirements and application rates.
- D. Fertilizers:
1. Commercial Fertilizer: Reference Contract Drawings for fertilizer requirements.
- E. Mulches:
1. Straw Mulch: Provide air dry, clean, mildew and certified seed free, salt hay or threshed straw of wheat, rye, oats, or barley. Provide at a rate of 3000# per acre (approximately

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100 bales per acre). Apply asphalt emulsion to straw mulch at a rate of 150 gallons per acre.

F. Accessories:

1. Provide herbicides, chemicals and insecticides as needed for disease, fungus or pest control. All herbicides, chemicals and insecticides shall bear approval labels indicating they are approved by the United States Department of Agriculture for the intended uses and application rates.
2. Post Emergent Crab Grass and Plantain Chemical: Provide recommended post emergent crab grass and plantain control throughout the maintenance period to ensure germinated and established lawns free of crab grass and other undesirable grasses and forbs.

PART 3 EXECUTION

3.1 INSPECTION

- A. Examine the areas and conditions under which lawn and meadow Work is to be performed, and notify ENGINEER, in writing, of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 PREPARATION

- A. Thoroughly blend and mix loam before spreading. Incorporate fertilizers, and ground limestone or acidulant, after spreading, as specified, and at rates recommended by soil-testing laboratory.
- B. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
- C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff or airborne dust to adjacent properties and walkways.
- D. Perform percolation tests on existing subgrade and placed fills prior to fine grading.
1. Perform percolation testing of subgrades and placed fills to determine whether or not the subgrade will drain properly. Perform percolation tests in accordance with the following procedure:
 - a. Dig a hole in the subgrade that is 4-inches in diameter and 12-inches deep.
 - b. Fill the hole with water and wait for the water to completely drain from the hole.
 - c. Immediately refill the hole with water and measure the rate of fall in the water level.
 2. In the event that water drains at a rate less than 1-inch in one hour, excavate soil to a minimum depth of 24-inches, and deeper, as necessary to break the compaction. Backfill, recompact and retest each area so prepared to confirm drainage rates exceed one inch in one hour.
 3. Perform minimum of one soil percolation test for every 10,000 square feet of lawn and meadow area.

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- E. Excavate or fill subgrade, as required, to bring subgrade to elevations shown. Maintain all angles of repose. Confirm that subgrade is at proper elevations and that no further earthwork is required to bring the subgrade to proper elevations. Provide subgrade elevations that slope parallel to finished grade and towards subsurface drains shown.
- F. Remove all construction debris, trash, rubble and all extraneous materials from subgrade. In the event that fuels, oils, concrete washout or other material harmful to plant growth or germination have been spilled into the subgrade, excavate the subgrade sufficiently to remove all such harmful materials and fill with approved fill, compacted to the required subgrade compaction level.

3.3 FINE GRADING

- A. Immediately prior to dumping and spreading loam, clean subgrade of all stones greater than 2-inches and all other extraneous matter. Remove all such material from Site. Notify ENGINEER that subgrade has been cleaned, and obtain approval prior to spreading loam.
- B. Do not attempt to spread excessively wet, muddy or frozen loam. Do not spread loam more than five days before seeding or planting.
- C. Spread loam to a depth of 4 inches but not less than required to meet finish grades after light rolling and natural settlement.
 - 1. Spread approximately one-half the thickness of required loam depth. After spreading loam, rototill, disk or harrow loam and subgrade to bring top 2-inches of subgrade upward into loam layer, so that there is a transitional layer between loam and subgrade.
 - 2. Spread remainder of loam to required finish grades.
 - 3. Compact each lift sufficiently to reduce settling, but not enough to prevent the movement of water and feeder roots through loam. After compaction spread loam should offer firm, even resistance when a soil sampling tube is inserted.
 - 4. Phase the placement of the final lift so that wheeled vehicles do not have to travel over areas where final lifts are already in-place.
 - 5. Spread and compact to a smooth, uniform surface plane, to within plus or minus 1/2-inch of finish elevations. Roll and rake and remove all ridges, and fill depressions, as required. Remove all stones larger than 1-inch in any dimension and all sticks, roots, trash and other extraneous matter.
 - 6. Perform percolation tests as for subgrades, except limit depth of holes to 2/3 the depth of loam layer.
- D. Spread ground limestone or acidulant and fertilizer, as specified. Mix ground limestone with dry loam before spreading fertilizer and work lightly into the top 4-inches of loam by harrowing or tilling at least three days before applying commercial fertilizers.
- E. Grade planting areas to smooth, even surface with loose, uniformly fine texture. Remove all stones and extraneous material in excess of 1 inch diameter. Roll, rake and remove ridges and fill depressions, as required to meet finish grades.
- F. Moisten prepared areas before seeding, sodding, sprigging or plugging. Water thoroughly and allow surface moisture to dry before planting. Do not create a muddy loam condition.

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- G. Prior to seeding or planting, restore loam to specified condition, if eroded or otherwise disturbed.

3.4 CONVENTIONAL SEEDING

- A. Reference the seeding notes on the Drawings for the types of seed and the rate of application.
- B. General:
1. Seeding and mulching shall be done in accordance with all applicable provisions of Section 1660 of the most current "Standard Specifications for Roads and Structures" published by the NCDOT, and the following provisions.
 2. Seeding and mulching shall be done on all earth areas disturbed by construction or as designated by the Engineer. In roadway right-of-way the cleanup shall follow the construction such that seeding and mulching shall follow pipe laying as close as possible to avoid erosion of soil and subsequent siltation of streams.
 3. Maintain grade stakes until removal is mutually agreed upon by all parties concerned.
 4. Rake or harrow all seedbeds immediately prior to seeding to produce a rough, grooved surface, no deeper than 1-inch. Seed only when seedbed is in a friable condition and not muddy or hard.
 5. Sow seed using a spreader or seeding machine.
 6. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.
- C. Sow lawn grass seed mixture at the rate provided in the Contract Drawings.
- D. Cultipacker, or approved similar equipment, may be used to cover the seed and to firm the seedbed in one operation. In areas inaccessible to cultipacker:
1. Rake the seed lightly into top 1/8-inch of loam, roll in two directions with a water ballast roller, weighing not less than 100 pounds per linear foot.
 2. Take care during raking that seed is not raked from one spot to another.
 3. Protect seeded areas against erosion by spreading specified mulch after completion of seeding operations.
 - a. Protect seeded areas against hot, dry weather or drying winds by applying peat moss mulch not more than 24 hours after completion of seeding operations. Presoak and scatter evenly to a depth of from 1/8 inch to 3/16 inches thick and roll to a smooth surface. Do not mound.
 - b. Spread straw mulch to form a continuous loose blanket not less than 1 1/2 inch deep over seeded areas at the approximately rate of 4000 lbs-per acre. Refer to Contract Drawings.
 - 1) Anchor mulch by spraying with asphalt emulsion at the rate of ten to 150-gallons per acre.
 - 2) Place mulch with equipment that will blow or eject, by means of a constant air stream, controlled quantities of the mulch and asphalt in a uniform pattern over the specified area. If the mulch is excessively cut or broken, take measures to reduce the cutting or breakage. Introduce the asphalt into the air stream by means of a spray arranged so that it will partially coat the mulch with a spotty asphalt tack prior to the depositing of the mulch covering. Rate of application not less than 75-gallons per ton of mulch.

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- c. Protect seeded areas, with slopes exceeding one on six, by providing erosion-control fiber mesh and where slopes exceed one on four, by providing erosion-control blankets. Install erosion-control materials according to manufacturer's written instructions and as follows:
 - 1) Vertically down slope without stretching fabric.
 - 2) Install hold down staples three per square yard minimum in center of fabric or as required to hold and shape the fabric to the contours of the slope. Install hold down staples along edges and overlaps of fabric at 9 inches on centers minimum, or as required to hold and shape the fabric to the contours of the slope.
 - 3) Lap fabric 4-inches minimum and turn edges of fabric into 8-inch deep by 16-inch wide earth trench and fill trench with earth.
- E. Using a uniform fine spray, thoroughly and evenly water seeded areas. Provide adequate water to moisten seedbed to a depth of 2-inches.
 - 1. Repeat this process when peat mulch color lightens. Maintain all seedbeds in a uniformly moist condition, conducive to seed germination and plant establishment, as specified.
- F. Reseed areas that remain without mulch for longer than three days.
- G. Take precautions to prevent damage or staining of construction or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- H. Prevent foot or vehicular traffic, or the movement of equipment, over the mulched areas. Reseed areas damaged as a result of such activity.

3.5 RECONDITIONING EXISTING LAWNS AND MEADOWS

- A. Recondition existing lawn and meadow damaged by CONTRACTOR'S operations, including areas used for storage of materials or equipment and areas damaged by movement of vehicles. Recondition existing lawns and meadow areas where minor regrading is required.
- B. Recondition other existing lawn and meadow areas shown.
- C. Provide fertilizer, seed or sod and soil amendments, as specified for new lawn and meadow, and as required to provide satisfactorily reconditioned lawns and meadows. Provide new loam as required to fill low spots and meet new finish grades.
- D. Till stripped, bare, and compacted areas thoroughly to a depth of 12-inches.
- E. Remove diseased or unsatisfactory lawn and meadow areas; do not bury into soil. Remove topsoil containing extraneous materials resulting from CONTRACTOR'S operations including oil drippings, stone, gravel and other construction materials.
- F. In areas approved by ENGINEER, where substantial lawns and meadows remain (but are thin), mow, dethatch, core aerate and rake. Fill low spots, remove humps, cultivate soil, fertilize, and seed. Remove weeds before seeding or if extensive, apply selective chemical weed killers, as required. Apply a seedbed mulch, if required, to maintain moist condition.

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- G. Water newly planted areas and keep moist until new lawns and meadows are established, as specified.

3.6 ACCEPTANCE CRITERIA

- A. Areas requiring seeding will be considered acceptable when:
1. Lawns: When a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 square feet and bare spots not exceeding 5-inches by 5-inches.
 2. Other Seeded Areas: When a healthy, uniform, close stand of meadow grass and forbs has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 20 square feet and bare spots not exceeding 12-inches by 12-inches.

3.7 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris, created by lawn and meadow Work, from paved areas. Clean wheels of vehicles before leaving Site to avoid tracking soil and loam onto roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout extended service period and remove when service period ends. Treat, repair or replace damaged lawns and meadows.
- C. Remove erosion control measures after lawn and meadow extended service period ends.

3.8 INSPECTION AND ACCEPTANCE

- A. Where areas requiring seeding do not comply with specified acceptance criteria, reestablish grassy areas and continue extended service period until lawns and meadows comply with criteria for acceptance.

3.9 DEMONSTRATION

- A. Engage installer's Site supervisor to train and instruct OWNER'S personnel in the proper maintenance of lawns and meadows and procedures to be performed throughout the year for proper care and maintenance of lawn and meadows.
1. Include instructions and training on reconditioning established lawns and meadow and sources of lawn and meadow materials.
 2. Schedule training with OWNER, through ENGINEER, with at least seven days' advance notice.
- B. Review Operation and Maintenance information and be sure all instructions are clearly understood by OWNER'S personnel and are supplemented with additional information, clarifications and instructions, as required.
- C. Provide minimum of two, nonconsecutive, full days on-Site training time during day shift normal working hours.

END OF SECTION

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SECTION 33 05 05

BURIED PIPING INSTALLATION

PART 1 GENERAL

1.1 DESCRIPTION

A. Scope:

1. Provide all labor, materials, equipment, and incidentals as shown, specified, and required to install and test all buried piping, fittings, and specials. The Work includes the following:
 - a. All types and sizes of buried piping, except where buried piping installations are specified under other Sections.
 - b. Unless otherwise shown or specified, this Section includes all buried piping Work required, beginning at the outside face of structures or structure foundations, including piping beneath structures, and extending away from structures.
 - c. Work on or affecting existing buried piping.
 - d. Installation of all jointing and gasket materials, specials, flexible couplings, mechanical couplings, harnessed and flanged adapters, sleeves, tie rods, cathodic protection, and other Work required for a complete, buried piping installation.
 - e. Supports, restraints, and thrust blocks.
 - f. Pipe encasements.
 - g. Field quality control, including testing.
 - h. Cleaning and disinfecting.
 - i. Incorporation of valves, and special items shown or specified into piping systems in accordance with the Contract Documents and as required.

B. Coordination:

1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before buried piping Work.
2. Coordinate with appropriate piping Sections of Division 33.

C. Related Sections:

1. Section 31 23 33 Trenching and Backfilling.

1.2 REFERENCES

A. Standards referenced in this Section are:

1. ASTM C12, Practice for Installing Vitrified Clay Pipe Lines.
2. ASTM C425, Specification for Compression Joints for Vitrified Clay Pipe and Fittings.
3. ASTM C828, Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines.
4. ASTM C924, Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Test Method.
5. ASTM D2321, Practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications.
6. ASTM D2774, Practice for Underground Installation of Thermoplastic Pressure Piping.
7. ASTM F1417, Test Method for Installation Acceptance of Plastic Gravity Sewer Lines using Low-Pressure Air.

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8. ASTM F2164, Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure.
9. ANSI/AWWA C105, Polyethylene Encasement for Ductile-Iron Pipe Systems.
10. ANSI/AWWA C111, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
11. ANSI/AWWA C600, Installation of Ductile-Iron Water Mains and Their Appurtenances.
12. ANSI/AWWA C603, Installation of Asbestos-Cement Pressure Pipe.
13. ANSI/AWWA C605, Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
14. ANSI/AWWA C651, Disinfecting Water Mains.
15. AWWA M9, Concrete Pressure Pipe.
16. AWWA M23, PVC Pipe - Design and Installation.
17. AWWA M41, Ductile-Iron Pipe and Fittings.
18. AWWA M55, PE Pipe - Design and Installation.
19. ASCE 37, Design and Construction of Sanitary and Storm Sewers.
20. American Concrete Pipe Association, Concrete Pipe Handbook.
21. ASTM D3262, Centrifugally Cast Fiberglass Pipe.
22. NFPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.
23. NCDOT Standard Specifications for Road and Structures.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 1. Comply with requirements and recommendations of authorities having jurisdiction over the Work, including.
 - a. North Carolina Department of Transportation.
 - b. North Carolina Department of Environmental Quality.
 - c. Piedmont Natural Gas.
 - d. Duke Energy.
 2. Obtain required permits for Work in roads, rights of way, railroads, and other areas of the Work.
- B. The bell ends of pipe shall face the direction of laying unless otherwise directed by the ENGINEER, for lines on appreciable slope, the ENGINEER may require that bell ends face upgrade.

1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
 1. Shop Drawings:
 - a. Laying schedules for concrete pipe and piping with restrained joints.
 - b. Details of piping, specials, joints, harnessing and thrust blocks, and connections to piping, structures, equipment, and appurtenances.
 2. Product Data:
 - a. Manufacturer's literature and specifications, as applicable, for products specified in this Section.
 3. Testing Procedures:
 - a. Submit proposed testing procedures, methods, apparatus, and sequencing. Obtain ENGINEER's approval prior to commencing testing.

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- B. Informational Submittals: Submit the following:
 - 1. Certificates:
 - a. Certificate signed by manufacturer of each product certifying that product conforms to applicable referenced standards.
 - 2. Field Quality Control Submittals:
 - a. Results of each specified field quality control test.
- C. Closeout Submittals: Submit the following:
 - 1. Record Documentation:
 - a. Maintain accurate and up-to-date record documents showing modifications made in the field, in accordance with approved submittals, and other Contract modifications relative to buried piping Work. Submittal shall show actual location of all piping Work and appurtenances at same scale as the Drawings.
 - b. Show piping with elevations referenced to Project datum and dimensions from permanent structures. For each horizontal bend in piping, include dimensions to at least three permanent structures, when possible. For straight runs of piping provide offset dimensions as required to document piping location.
 - c. Include profile drawings with buried piping record documents when the Contract Documents include piping profile drawings.
 - d. Conform to Section 01 78 39, Project Record Documents.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery:
 - 1. Deliver materials to the Site to ensure uninterrupted progress of the Work.
 - 2. Upon delivery inspect pipe and appurtenances for cracking, gouging, chipping, denting, and other damage and immediately remove from Site and replace with acceptable material.
- B. Storage:
 - 1. Store materials to allow convenient access for inspection and identification. Store material off ground using pallets, platforms, or other supports. Protect packaged materials from corrosion and deterioration.
 - 2. Pipe and fittings other than PVC and CPVC may be stored outdoors without cover. Cover PVC and CPVC pipe and fittings stored outdoors.
- C. Handling:
 - 1. Handle pipe, fittings, specials, and accessories carefully in accordance with pipe manufacturer's recommendations. Do not drop or roll material off trucks. Do not drop, roll or skid piping.
 - 2. Avoid unnecessary handling of pipe.
 - 3. Keep pipe interiors free from dirt and foreign matter.
 - 4. Protect interior linings and exterior coatings of pipe and fittings from damage. Replace pipe and fittings with damaged lining regardless of cause of damage.

1.6 MEASUREMENT AND PAYMENT

- A. Sewer and Water Pipe

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1. The quantity of pipe to be paid for will be the actual number of linear feet of pipe that has been satisfactorily installed and accepted.
 2. The quantity of pipe will be paid for at the contract unit price per linear foot. Price and payment will include but is not limited to, furnishing, hauling, and installing all pipe; making all joint connections, and performing all leakage tests.
- B. Encasement Pipe
1. Open Cut Method: The quantity of encasement pipe will be paid for at the contract unit price per linear foot.
- C. Polyethylene Encasement is to be paid for per linear feet of encasement installed and accepted.
- D. Utility Pipe Markers and Locator
1. Payment for pipe markers and locators and appurtenances will be at the contract unit price per each.
- E. Pipe fittings are to be paid for per each type of fitting installed and accepted.
- F. Buried Piping Identification Tape is incidental to the Work. No separate payment will be made for identification tape.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Piping materials are specified in the Buried Piping Schedule at end of this Section. Piping materials shall conform to Specifications for each type of pipe and piping appurtenances in applicable Sections.
- B. General:
1. Pipe Markings:
 - a. Factory-mark each length of pipe and each fitting with designation conforming to those on approved laying schedules.
 - b. Manufacturer shall cast or paint on each length of pipe and each fitting pipe material, diameter, and pressure or thickness class.

PART 3 EXECUTION

3.1 INSTALLATION

- A. General:
1. Install piping as shown, specified, and as recommended by pipe and fittings manufacturer.
 2. In event of conflict between manufacturer's recommendations and the Contract Documents, request interpretation from ENGINEER before proceeding.

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3. ENGINEER will observe excavations and bedding prior to laying pipe by CONTRACTOR. Notify ENGINEER in advance of excavating, bedding, pipe laying, and backfilling operations.
 4. Minimum cover over buried piping shall be three feet, unless otherwise shown or approved by ENGINEER.
 5. Earthwork is specified in Section 31 23 33, Trenching and Backfilling.
 6. Excavation in excess of that required or shown, and that is not authorized by ENGINEER shall be filled at CONTRACTOR's expense with granular material furnished, placed, and compacted in accordance with applicable Sections.
- B. Manufacturer's Installation Specialist:
1. Provide services of competent installation specialist of pipe manufacturer when pipe installation commences for:
 - a. Concrete pipe.
 - b. FRP pipe.
 - c. Thermoplastic pipe.
 2. Vertical Separation:
 - a. Provide minimum vertical distance of 18 inches between outside of potable water main and outside of sewer when potable water main crosses over sewer.
 - b. Provide minimum vertical distance of (1) inches between outside of potable water main and outside of sewer when sewer crosses over potable water main.
 - c. Center a section of potable water main pipe at least 17.5 feet long over sewer so that sewer joints are equidistant from potable water main joints.
 - d. Provide adequate structural support where potable water main crosses under sewer. At minimum, provide compacted select backfill for ten feet on each side of crossing.
 - e. Exceptions:
 - 1) Where it is not possible to provide minimum vertical separation described above, construct potable water main and sewer main of cement-lined ductile iron pipe with restrained push-on joint or restrained mechanical joint pipe. Hydrostatically test water main and sewer as specified in this Section, prior to backfilling. Hydrostatic test pressure at crossing shall be at least 150 psi.
 - 2) Encase either potable water main or sewer in watertight carrier pipe extending ten feet on each side of crossing, measured perpendicular to potable water main.
- C. Plugs:
1. Temporarily plug installed pipe at end of each day of work or other interruption of pipe installation to prevent entry of animals, liquids, and persons into pipe, and entrance or insertion of deleterious materials into pipe.
 2. Install standard plugs in bells at dead ends, tees, and crosses. Cap spigot and plain ends.
 3. Fully secure and block plugs, caps, and bulkheads installed for testing to withstand specified test pressure.
 4. Where plugging is required for phasing of the Work or subsequent connection of piping, install watertight, permanent type plugs, caps, or bulkhead acceptable to ENGINEER.

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- D. Bedding Pipe: Bed pipe as specified and in accordance with the NCDOT Standards Specifications for Roads and Structures Section 1016 or details shown on the Contract Drawings.
1. Trench excavation and backfill, and bedding materials shall conform to Section 31 23 33 Trenching and Backfilling, as applicable.
 2. Where ENGINEER deems existing bedding material unsuitable, remove and replace existing bedding with approved granular material furnished, placed, and compacted in accordance with NCDOT Standards, or as required by the defined trench conditions. Payment for additional excavation and providing granular material will be made under the unit price payment items in the Contract.
 3. Where ENGINEER deems the existing soil is suitable for bedding purposes, it shall be used.
 4. Where pipe is installed in rock excavation, provide granular bedding underneath pipe in accordance to NCDOT Standards. Excavate trenches below bottom of pipe by amount shown and indicated in the Contract Documents. Remove loose and unsuitable material from bottom of trench.
 5. Carefully and thoroughly compact pipe bedding with hand held pneumatic compactors.
 6. Do not lay pipe until ENGINEER approves bedding condition.
 7. Do not bring pipe into position until preceding length of pipe has been bedded and secured in its final position.
- E. Laying Pipe:
1. Conform to manufacturer's instructions and requirements of standards and manuals listed below, as applicable:
 - a. Ductile Iron Pipe: ANSI/AWWA C600, ANSI/AWWA C105, AWWA M41.
 - b. Concrete Pipe: AWWA M9.
 - c. Thermoplastic Pipe: ASTM D2321, ASTM D2774, ANSI/AWWA C605, AWWA M23, AWWA M45, AWWA, M55.
 2. Install pipe accurately to line and grade shown and indicated in the Contract Documents, unless otherwise approved by ENGINEER. Remove and reinstall pipes that are not installed correctly.
 3. Slope piping uniformly between elevations shown.
 4. Keep groundwater level in trench at least 24 inches below bottom of pipe before laying pipe. Do not lay pipe in water. Maintain dry trench conditions until jointing and backfilling are complete. Keep clean and protect interiors of pipe, fittings, valves, and appurtenances.
 5. Start laying pipe at lowest point and proceed towards higher elevations, unless otherwise approved by ENGINEER.
 6. Place bell and spigot-type pipe so that bells face the direction of laying, unless otherwise approved by ENGINEER.
 7. Place concrete pipe containing elliptical reinforcement with minor axis of reinforcement in vertical position.
 8. Excavate around joints in bedding and lay pipe so that pipe barrel bears uniformly on trench bottom.
 9. Deflections at joints shall not exceed 75 percent of amount allowed by pipe manufacturer, unless otherwise approved by ENGINEER.
 10. Carefully examine pipe, fittings, valves, and specials for cracks, damage, and other defects while suspended above trench before installation. Immediately remove defective materials from the Site and replace with acceptable products.

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11. Inspect interior of all pipe, fittings, valves, and specials and completely remove all dirt, gravel, sand, debris, and other foreign material from pipe interior and joint recesses before pipe and appurtenances are moved into excavation. Bell and spigot-type mating surfaces shall be thoroughly wire brushed, and wiped clean and dry immediately before pipe is laid.
12. Field cut pipe, where required, with machine specially designed for cutting the type of pipe being installed. Make cuts carefully, without damage to pipe, coating or lining, and with smooth end at right angles to axis of pipe. Cut ends on push-on joint type pipe shall be tapered and sharp edges filed off smooth. Do not flame-cut pipe.
13. Do not place blocking under pipe, unless specifically approved by ENGINEER for special conditions.
14. Touch up protective coatings in manner satisfactory to ENGINEER prior to backfilling.
15. Notify ENGINEER in advance of backfilling operations.
16. On steep slopes, take measures acceptable to ENGINEER to prevent movement of pipe during installation.
17. Exercise care to avoid flotation when installing pipe in cast in-place concrete, and in locations with high groundwater.

F. Backfilling:

1. Conform to applicable requirements of Section 31 23 33, Trenching and Backfilling.
2. Place backfill as Work progresses. Backfill by hand and use power tampers until pipe is covered by at least one foot of backfill.

G. Transitions from One Type of Pipe to Another:

1. Provide necessary adapters, specials, and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers.

H. Closures:

1. Provide closure pieces shown or required to complete the Work.

3.2 TRACER TAPE INSTALLATION

A. Polyethylene Underground Warning Tape for Metallic Pipelines:

1. Provide polyethylene tracer tape for buried metallic piping, which includes pipe that is steel, ductile iron, cast iron, concrete, copper, and corrugated metal.
2. Provide tracer tape 12 to 18 inches above the pipe, above and parallel to buried pipe.
3. For pipelines buried eight feet or greater below finished grade, provide second line of magnetic tracer tape 12 to 18 inches below finished grade above crown of buried pipe, aligned along pipe centerline.
4. Tape shall be spread flat with message side up before backfilling.

B. Detectable Underground Warning Tape for Non-Metallic Pipelines:

1. Provide polyethylene tracer tape with aluminum backing for buried, non-metallic piping, which includes pipe that is PVC, CPVC, polyethylene, HDPE, FRP, ABS, and vitrified clay.
2. Provide magnetic tracer tape 12 to 18 inches below finished grade, above and parallel to buried pipe.

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3. For pipelines buried eight feet or greater below finished grade, provide second line of magnetic tracer tape 2.5 feet above crown of buried pipe, aligned along the pipe centerline.
4. Tape shall be spread flat with message side up before backfilling.

3.3 UTILITY PIPE MARKERS AND LOCATOR

- A. Markers are to be installed directly over the pipe 2 feet below grade as the trench is backfilled.
1. Sewer outfall markers shall be color coded (green) for wastewater.

3.4 WORK AFFECTING EXISTING PIPING

- A. Location of Existing Underground Facilities:
1. Locations of existing Underground Facilities shown on the Drawings should be considered approximate.
 2. Determine the true location of existing Underground Facilities to which connections are to be made, crossed, and that could be disturbed, and determine location of Underground Facilities that could be disturbed during excavation and backfilling operations, or that may be affected by the Work.
- B. Work on Existing Pipelines or Underground Facilities:
1. Cut or tap piping or Underground Facilities as shown or required with machines specifically designed for cutting or tapping pipelines or Underground Facilities, as applicable.
 2. Install temporary plugs to prevent entry of mud, dirt, water, and debris into pipe.
 3. Provide necessary adapters, sleeves, fittings, pipe, and appurtenances required to complete the Work.

3.5 FIELD QUALITY CONTROL

- A. General:
1. Test all piping, except as exempted in the Buried Piping Schedule in this Section.
 2. When authorities having jurisdiction are to witness tests, notify ENGINEER and authorities having jurisdiction in writing at least 48 hours in advance of testing.
 3. Conduct all tests in presence of ENGINEER.
 4. Remove or protect pipeline-mounted devices that could be damaged by testing.
 5. Provide all apparatus and services required for testing, including:
 - a. Test pumps, compressors, hoses, calibrated gages, meters, test containers, valves, fittings, and temporary pumping systems required to maintain OWNER's operations.
 - b. Temporary bulkheads, bracing, blocking, and thrust restraints.
 6. Provide air if an air test is required, power if pumping is required, and gases if gases are required.
 7. Unless otherwise specified, CONTRACTOR will provide water required for hydrostatic testing. Provide means to convey water for hydrostatic testing into piping being tested. Provide water for other types of testing required.
 8. Repair observed leaks and repair pipe that fails to meet acceptance criteria. Retest after repair.
 9. Unless otherwise specified, testing shall include existing piping systems that connect with new piping system. Test existing pipe to nearest valve. Piping not installed by

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CONTRACTOR and that fails the test shall be repaired upon authorization of OWNER. Unless otherwise included in the Work, repair of existing piping or Underground Facilities will be paid as extra Work.

- B. Test Schedule:
1. Refer to the Buried Piping Schedule in this Section for type of test required and required test pressure. Perform all tests in the presence of the Engineer.
 2. Unless otherwise specified, required test pressures are at lowest elevation of pipeline segment being tested.
 3. For piping not listed in Buried Piping Schedule in this Section:
 - a. Hydrostatically test pipe that will convey liquid at a pressure greater than five psig. Provide process air pipe test for pipe that will convey air or gas under pressure or vacuum.
 - b. Use exfiltration testing, low-pressure air testing, or vacuum testing for other piping as required.
 - c. Disinfect for bacteriological testing piping that conveys potable water.
 4. Test Pressure:
 - a. Use test pressures listed in Buried Piping Schedule in this Section.
 - b. If test pressure is not listed in Buried Piping Schedule, or if test is required for piping not listed in the Buried Piping Schedule, test pressure will be determined by ENGINEER based on maximum anticipated sustained operating pressure and methods described in applicable ANSI/AWWA manual or standard that applies to the piping system.

3.6 CLEANING AND DISINFECTION

- A. Cleaning, General: Clean pipe systems as follows:
1. Thoroughly clean all piping, including flushing with water, dry air, or inert gas as required, in manner approved by ENGINEER, prior to placing in service.
 2. Piping 24-inch diameter and larger shall be inspected from inside and debris, dirt and foreign matter removed.
 3. For piping that requires disinfection and has not been kept clean during storage or installation, swab each section individually before installation with five percent sodium hypochlorite solution.

3.7 SCHEDULES

- A. Schedules listed below, following the "End of Section" designation, are part of this Specification section.
1. Table 33 05 05-A, Buried Piping Schedule.

END OF SECTION

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The following abbreviations are used in the Buried Piping Schedule.

A. Service Abbreviations

Service	Abbrev		Service	Abbrev.
Sanitary Sewer	SAN		Wastewater	WW
Storm Sewer	ST			
Sanitary Force Main	SFM			
Raw Water	RW			
Potable Water	PW			
Non-Potable Water	NPW			
Plant Effluent Water	PEW			
Influent	INF			
Effluent	EFF			
Drain	DR			

B. Material Abbreviations

Material	Abbrev		Material	Abbrev.
Ductile Iron	DI		Polyvinyl Chloride	PVC
Cast Iron	CI		Chlorinated Polyvinyl Chloride	CPVC
Carbon Steel	CS		Polyethylene	PE
Stainless Steel	SS		High Density Polyethylene	HDPE
Copper	C		Fiberglass Reinforced Plastic	FRP
Corrugated Metal Pipe	CMP		Acrylonitrile Butadiene Styrene	ABS
Reinforced Concrete Pipe	RCP		Vitrified Clay	VC
Non-Prestressed Concrete Cylinder Pipe	CCP			

C. Lining/Coating Abbreviations

Lining	Abbrev		Coating	Abbrev.
Cement Mortar Lined	CL		Asphaltic Coated	AC
Glass Lined	GL		Polyethylene Wrapped	PEW
Ceramic Epoxy	CE		Painted	P
Fusion Bonded Epoxy Lined	FBEL		Fusion Bonded Epoxy Coated	FBEC
Plastic Lined	PL		Insulated	I
			Galvanized	Galv

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D. Joint Abbreviations

Joint Type	Abbrev		Joint Type	Abbrev.
Bell and Spigot	BS		Butt Weld	BW
Restrained Bell and Spigot	RBS		Lap Weld	LW
Push-on Joint	POJ		Butt Fusion Weld	BFW
Restrained Push-on Joint	RPOJ		Solvent Weld	SW
Mechanical Joint	MJ		Sleeve-type Flexible Coupling	SLFC
Restrained Mech. Joint	RMJ		Split Flexible Coupling	SPFC
Soldered	Sd		Plasticized PVC Coupling	PPVC
Brazed	Bz		Grooved or Shouldered End Coupling	GSEC
Threaded	Thd		Flanged	Flg
Compression Sleeve Coupling	CSC		Compression Flange Adapter	CFA

E. Test Abbreviations

Test	Abbrev		Test	Abbrev.
Hydrostatic Test (test pressure in psig)	HYD ()		Process Air Pipe Test (test pressure in psig)	PA ()
Exfiltration	EX			
Low-pressure Air Sewer Test	AIR		Disinfection and Bacteriological Testing	DBT
Vacuum Test	VAC		Examination of Welds	EW
Vertical Deflection	VD		No Test Required	NR
Televised Inspection	TV			

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SECTION 33 05 39

CONCRETE PIPE

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope:
 - 1. Provide all labor, materials, equipment, and incidentals shown, specified, and required to furnish and install reinforced concrete pipe and fittings.
 - 2. Extent of concrete pipe to be provided is shown and specified in piping schedules included in Section 33 05 05, Buried Piping Installation, and Section 33 05 07, Exposed Piping Installation.
- B. Coordination:
 - 1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before concrete pipe Work.
- C. Related Sections:
 - 1. Section 33 05 05, Buried Piping Installation.

1.2 REFERENCES

- A. Standards referenced in this Section are:
 - 1. AASHTO, Policy on Geometric Design of Highways and Streets.
 - 2. ANSI/ASTM A27/A27M, Specification for Steel Castings, Carbon, for General Application.
 - 3. ANSI/ASTM A36/A36M, Specification for Carbon Structural Steel.
 - 4. ANSI/ASTM A82, Specification for Steel Wire, Plain for Concrete Reinforcement.
 - 5. ANSI/ASTM A185, Specification for Steel Welded Wire Reinforcement, Plain for Concrete.
 - 6. ANSI/ASTM A283/A283M, Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
 - 7. ANSI/ASTM A496, Specification for Steel Wire, Deformed, for Concrete Reinforcement.
 - 8. ANSI/ASTM A497/A497M, Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
 - 9. ANSI/ASTM A615/A615M, Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - 10. ANSI/ASTM A663/A663M, Specification for Steel Bars, Carbon, Merchant Quality Mechanical Properties.
 - 11. ANSI/ASTM A1011/1011M, Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
 - 12. ANSI/ASTM A1018/1018M, Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
 - 13. ANSI/ASTM C14, Specification for Concrete Sewer, Storm Drain and Culvert Pipe.
 - 14. ANSI/ASTM C33, Specification for Concrete Aggregates.

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15. ANSI/ASTM C76, Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
16. ANSI/ASTM C118, Specification for Concrete Pipe for Irrigation or Drainage.
17. ANSI/ASTM C150, Specification for Portland Cement.
18. ANSI/ASTM C361, Specification for Reinforced Concrete Low Head Pressure Pipe.
19. ANSI/ASTM C444, Specification for Perforated Concrete Pipe.
20. ANSI/ASTM C507, Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.
21. ANSI/ASTM C595, Specification for Blended Hydraulic Cements.
22. ANSI/ASTM C1433, Specification For Precast Reinforced Concrete Box Sections for Culverts, Storm Drains and Sewers.
23. ANSI/AWWA C207, Steel Pipe Flanges for Waterworks Service-Sizes 4-inch through 144-inches.
24. ANSI/AWWA C300, Reinforced Concrete Pressure Pipe, Steel Cylinder Type.
25. ANSI/AWWA C301, Prestressed Concrete Pressure Pipe, Steel Cylinder Type.
26. ANSI/AWWA C302, Reinforced Concrete Pressure Pipe, Non-Cylinder Type.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 1. Manufacturer:
 - a. Manufacturer shall have a minimum of five years of experience producing concrete pipe and fittings, and shall be able to document satisfactory service in at least five installations.
- B. Component Supply and Compatibility:
 1. Each type of concrete pipe and associated fittings shall be products of one manufacturer.
 2. Concrete pipe Supplier shall review, approve, and prepare all Shop Drawings and submittals for all components furnished under this Section.
 3. Components shall be suitable for specified service conditions.
- C. Quality of materials, process of manufacture, and finished pipe shall be subject to inspection by ENGINEER.

1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
 1. Shop Drawings:
 - a. Detailed drawings and data on piping and fittings, where applicable, and appurtenances. Submit with Shop Drawings required under Section 33 05 05, Buried Piping Installation.
 2. Product Data:
 - a. Detailed product data on pipe, fittings, gaskets, fastening hardware where applicable, and appurtenances. Submit with Shop Drawings required under Section 33 05 05, Buried Piping Installation.

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- B. Informational Submittals: Submit the following:
 - 1. Certifications:
 - a. Submit certificate signed by manufacturer of each product certifying that products conform to applicable referenced standards.
 - 2. Supplier Instructions:
 - a. Pipe manufacturer instructions for handling, storing, and installing products.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Refer to Section 33 05 05, Buried Piping Installation, and Section 33 05 07.

PART 2 PRODUCTS

2.1 SYSTEM PERFORMANCE

- A. General:
 - 1. Pipe shall be designed for an external live loading, including impact, equal to AASHTO H-20 loading with earth cover as shown.
- B. Service Conditions:
 - 1. Liquid Service: Stormwater
 - 2. Maximum Working Pressure (psi): 3 psi .
 - 3. Maximum Transient Pressure (psi): 0 psi.
 - 4. pH Range of Pipe Contents: 6 to 8.
 - 5. Pipe Inside Diameter (feet): 15 inches.
 - 6. Type of Joint: Tongue and groove with mastic or butyl sealant.
 - 7. Pressure Rating of Pipe (psi or feet of water): 25 psi.
 - 8. Pipe Overburden and Trench Bedding Condition: As shown on Drawings.

2.2 MATERIALS, REINFORCED CONCRETE PIPE FOR CULVERTS, STORM DRAINS, AND SEWERS

- A. Pipe and fittings shall conform to requirements of ANSI/ASTM C76. Pipe shall be free of fractures and surface roughness. Ends of pipe shall be normal to the walls and center of pipe. Joints shall be designed so that, when sections are laid together, they make a continuous line of pipe with smooth interior free of irregularities in flow line.
- B. Pipe Materials:
 - 1. Cement for concrete work shall be in accordance with, ANSI/ASTM C150 or ANSI/ASTM C595.
 - 2. Aggregates shall conform to ANSI/ASTM C33.
 - 3. Steel wire bar reinforcement shall be in accordance with ANSI/ASTM A82 or ANSI/ASTM A496.
 - 4. Steel wire fabric reinforcement shall be in accordance with ANSI/ASTM A185.
- C. Pipe shall be Class III. Quality of materials, process of manufacture, and finished pipe shall be subject to inspection and approval by ENGINEER.

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2.3 MARKING FOR IDENTIFICATION

- A. All pipeline materials shall be stamped, marked, or identified with the following information:
1. Name or trademark of manufacturer.
 2. Pipe class and specification designation.
 3. Size and length dimensions.
 4. Date and place of manufacture.
 5. Pipe 24 inches and larger shall also be marked on pipe interior as above.
 6. Name of OWNER.

PART 3 EXECUTION

3.1 INSTALLATION

- A. For buried piping installation, refer to Section 33 05 05, Buried Piping Installation.

END OF SECTION

ADDENDUM NO. 1

Event #605

Hagan-Stone Park Paving Repair Phase 2

County of Guilford

Facilities, Property Management & Parks Department

April 16, 2018

By this addendum, Guilford County is changing, revising the specifications or plans for the contract listed above as follows:

PAVEMENT PLAN:

The pavement limits on the Alternate have been revised on Dogwood Lane.

SCHEDULE OF VALUES:

The Schedule of Values has been revised to reduce the amount of pavement for the alternate. A line items has also been added to clean the existing storm pipes on Dogwood Lane.

Clarification and Questions

Can the entrance road be closed?

No the road must remain open to one way traffic. Traffic will exit the park from the rear entrance via Pine Road.

Can unusable stone and extra soil be disposed on site?

Response: No it will need to be removed offsite.

How will the uneven edge between the sidewalk and asphalt be addressed?

Response: Uneven section of the sidewalk will have to be saw cut to insure an even edge between the asphalt and sidewalk. No additional payment will be made for saw cutting the sidewalk as it will be considered incidental to the project.

Will the asphalt cost be adjusted based on the NCDOT asphalt index?

Response: The asphalt cost will be adjusted based on the NCDOT asphalt index from the bid date to the notice to proceed.

Work cannot begin on the Alternate portion for the Dogwood Lane until November 5, 2018 (after camping season).

Any damage done by the contractor to the existing sidewalk shall be repaired at contractor's expense.

This addendum must be recognized as **Addendum No. 1** on the Form Proposal. All other aspects of this contract remain the same.

Matt Williams
Borum, Wade and Associates, P.A.

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Hagan-Stone Park Pavement Repair Phase 2**

DOCUMENT 00311 – SCHEDULE OF VALUES

CONTRACTOR MUST FILL OPTION "A" OR OPTION "B" AND ALTERNATE FOR OPTION "A" OR OPTION "B".
BIDS WITHOUT THE THE BASE BID AND ALTERNATE WILL BE REJECTED.

OPTION A (Base Bid)- PAVEMENT REPAIR BY REMOVE AND REPLACE

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ <u>15,000</u>
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	UNSUITABLE SOIL REMOVE OFFSITE	
	120 CY @\$ _____ /CY =	\$ _____
	REMOVE DEMO ASPHALT OFFSITE	\$ _____
<u>DIVISION 31</u>		
	EARTHWORK METHODS	
SECTION 312333	TRENCHING AND BACKFILLING	
	REPLACE UNSUITABLE SOILS FROM OFFSITE	
	120 CY @\$ _____ /CY =	\$ _____
	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE	
	5,788 SY @\$ _____ /SY =	\$ _____
	REMOVE, EXCESS SOIL FROM SITE 640 CY @ \$ _____ /CY=	\$ _____
<u>DIVISION 32</u>		
	EXTERIOR IMPROVEMENTS	
SECTION 321123	AGGREGATE BASE COURSE	
	990 TN @ @\$ _____ /TN =	\$ _____
SECTION 321216	ASPHALT PAVING	
	5,788 SY@ \$ _____ /SY=	\$ _____
SECTION 321313	CONCRETE PAVING 260 SF @ _____ /SF=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
TOTAL		\$ _____

OPTION B (Base Bid)- ROAD REPAIR USING FULL DEPTH RECLAMATION

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 32</u>		
	EXTERIOR IMPROVEMENTS	
SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE) 5,788 SY @\$_____/SY =	\$ _____
SECTION 321216	ASPHALT PAVING 5,788 SY @\$_____/SY =	\$ _____
SECTION 321313	CONCRETE PAVING 260 SF @_____/SF=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
TOTAL		\$ _____

CONTRACTOR MUST FILL OPTION "A" OR OPTION "B".

OPTION A (Alternate Bid)– PAVEMENT REPAIR BY REMOVE AND REPLACE

Division	Discription	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ <u>15,000</u>
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	UNSUITABLE SOIL REMOVE OFFSITE	
	100 CY @\$ _____ /CY =	\$ _____
	REMOVE EX. STORM PIPE	
	2 EA @\$ _____ /EA =	\$ _____
<u>DIVISION 31</u>	EARTHWORK METHODS	
SECTION 312333	TRENCHING AND BACKFILLING	
	REPLACE UNSUITABLE SOILS FROM OFFSITE	
	100 CY @\$ _____ /CY =	\$ _____
	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE	
	1,743 SY @\$ _____ /SY =	\$ _____
	REMOVE, EXCESS SOIL FROM SITE	
	230 CY @ \$ _____ /CY=	\$ _____
	GRADE SIDE DITCH/ W MATTING	
	240 LF @ \$ _____ /LF=	\$ _____
	EROSION CONTROL RIP RAP	
	5 TN @ \$ _____ /TN=	\$ _____
	CLEANING EX. STORM PIPES 2 EA @\$ _____ /EA=	\$ _____
<u>DIVISION 32</u>	EXTERIOR IMPROVEMENTS	
SECTION 321123	AGGREGATE BASE COURSE	
	480 TN @ @\$ _____ /TN =	\$ _____
SECTION 321216	ASPHALT PAVING	
	1,743 SY@ \$ _____ /SY=	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
SECTION 329200	SEEDING LUMP SUM	\$ _____
<u>DIVISION 33</u>	UTILITIES	
SECTION 330539	30" RCP 30 LF @ \$ _____ /LF=	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
TOTAL		\$ _____

OPTION B (Alternate Bid) - ROAD REPAIR USING FULL DEPTH RECLAIMATION

Division	Description	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ _____
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ 15,000
SECTION 01310	PROJECT COORDINATION	\$ _____
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ _____
SECTION 01500	TEMPORARY FACILITIES	\$ _____
SECTION 01740	FINAL CLEANING	\$ _____
SECTION 01781	PROJECT CLOSEOUT	\$ _____
SECTION 01788	WARRANTIES	\$ _____
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	REMOVE EX. STORM PIPE	
	2 EA @\$ _____/EA =	\$ _____
<u>DIVISION 31</u>	EARTHWORK METHODS	
SECTION 312333	GRADE SIDE DITCH/ W MATTING	
	240 LF @ \$ _____/LF=	\$ _____
	EROSION CONTROL RIP RAP	
	5 TN @ \$ _____/TN=	\$ _____
	CLEANING EX. STORM PIPES	
	2 EA @\$ _____/EA=	\$ _____
<u>DIVISION 32</u>		
SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE)	
	1,743 SY @\$ _____/SY =	\$ _____
SECTION 321216	ASPHALT PAVING	
	1,743 SY @\$ _____/SY =	\$ _____
	RESTRIPING PAVEMENT LUMP SUM	\$ _____
	SPEED BUMP LUMP SUM	\$ _____
SECTION 329219	SEEDING LUMP SUM	\$ _____
<u>DIVISION 33</u>	UTILITIES	
SECTION 330539	30" RCP 30 LF @ \$ _____/LF=	\$ _____
<u>TESTING</u>		
	CONTRACTOR REQUIRED TESTING	\$ _____
TOTAL		\$ _____

END OF SECTION 00311



ECS CAROLINAS, LLP

Geotechnical • Construction Materials • Environmental • Facilities

"Setting the Standard for Service"

NC Registered Engineering Firm F-1078

April 1, 2016

Mr. Gene Mustin
Borum, Wade and Associates
621 Eugene Court
Suite 100
Greensboro, North Carolina 27401

ECS Project No. 09.26670

Reference: Report of Pavement Evaluation
Hagan Stone Park
Cedar Park Road
Pleasant Garden, North Carolina

Dear Mr. Mustin:

ECS Carolinas, LLP (ECS) has completed a pavement evaluation for the subject site as authorized by acceptance of our Proposal No. 09.24221-P, dated February 19, 2016 and authorized on March 15, 2016. The purpose of our work was to evaluate the existing pavements in selected areas along with the subsurface soil conditions and to provide recommendations for rehabilitation.

PROJECT INFORMATION

The project site consists of approximately 3800 linear feet with a divided entrance and heavy duty two lane drive through the park. The existing asphalt distress observed was primarily alligator cracking due to a thin pavement section and apparent subsequent water infiltration into the stone base. According to Guilford County GIS, the original construction of the park was completed in 1964. It is apparent multiple asphalt patches have been performed over the years. We were requested to perform a limited subsurface exploration to evaluate the existing asphalt pavements and subgrade soil conditions for the primary drive and to provide recommendations for remediation.

SUBSURFACE CONDITIONS

On March 24th, 2016, eight hand auger (HA) borings, with Dynamic Cone Penetrometer (DCP) testing were performed at the approximate locations indicated on the attached Coring Location Plan. The cores were obtained using a diamond impregnated core bit mounted to an electrically powered rotary coring machine. The DCP testing was performed in general accordance with ASTM STP 399. The hand auger borings were extended by manually twisting a steel auger into the ground. At one foot intervals, the DCP was inserted into the bore hole to determine the soil consistency. The conical point of the penetrometer was driven 3 increments of 1.75 inches with blows of a 15 pound hammer falling 20 inches. The average of the final two blow counts was used as an indication of the soil's consistency and its ability to support imposed loads.

The asphalt thickness ranged from 1.25 to 2.25 inches. The ABC stone base thickness ranged from 5 to 7.5 inches. Underlying the asphalt subbase, our hand auger borings encountered sandy silts with average DCP blow counts ranging from 7.5 to 20+ blows per 1.75 inch

Hagan-Stone Park
ECS Project No. 09.26670
April 1, 2016

increment. Hand auger refusal material was encountered at core location #3. Groundwater was not encountered to the depths explored. Material thicknesses and soil conditions at specific locations are noted on the attached Hand Auger Records. The majority of the borings indicated that the soil subgrade was relatively firm.

COMMENTARY

Alligator cracks may be the result of excessive heavy vehicle trafficking and the age of the pavement. Alligator cracks may be exacerbated by cyclical freezing and thawing following infiltration of water. Water infiltration increases the subgrade instability and contributes to further alligator crack formation.

DISCUSSION AND RECOMMENDATIONS

Based on our testing results and our observations, the distress observed appears to be the result of the asphalt exceeding its design life and a thin pavement and subbase section. Additionally, it is likely the current pavement section's that have not been patched exceeds the typical design life of 20 years. Based on the DCP results that we were able to obtain at the time of our exploration, it appears that the upper 1 to 2 feet of subgrade soils are firm. However; it is possible that due to an extended period of dry weather prior to our exploration that the near surface soils had dried out resulting in the blow counts recorded near surface.

We anticipate traffic will be generally light duty with dumpster truck traffic on a weekly basis. Repairs to the pavement are expected to consist of heavy duty pavement sections. Based on our experience with soils similar to those encountered at the site, we recommend the following minimum pavement sections for the project provided the subgrade can be successfully proofrolled during reconstruction. **Please note that these sections are considered minimum required thicknesses and do not represent a pavement design.**

TYPICAL PAVEMENT SECTION

<i>Material Designation</i>	Heavy Duty Asphalt Pavement
Asphalt Surface Course (S9.5B)	1.5 inches
Binder Course (I19.0B)	2.5 inches
Aggregate Base Course	8 inches

ECS recommends the following three options in order of high to low potential cost and low to high potential risk for the pavement to develop early failures with regards to the roadway:

Option #1 Pavement Reconstruction

Mill the asphalt and stone base to the depth required for the recommended heavy duty pavement section above. Then proofroll the subgrade and repair any areas found to be unstable. The millings may be used for the repairs, if needed. Based on the areas evaluated, it appears that areas requiring undercut will be isolated; however, the condition of the subgrade will be dependent on the prevailing weather at the time of reconstruction.

Hagan-Stone Park
ECS Project No. 09.26670
April 1, 2016

Option #2 Full Depth Reclamation

Full depth reclamation (FDR) may be more cost effective. Full depth reclamation requires blending of the existing subgrade soils, ABC stone base and asphalt with a predetermined percentage of cement and water. We recommend blending the section of FDR to a depth of -10 inches prior to removing 2 inches of the blended material to provide the surface for the pavement section consisting of 2 inches of S9.5B. The advantages of FDR include being able to traffic the FDR prior to paving by the next day and providing an improved structural number for the sub-base of the asphalt pavement section. With this option, we recommend performing a mix design to determine the optimum percentage of cement to achieve a typical 300 to 350-psi unconfined compressive strength of the blended materials.

Option #3 (Chip and Seal/Fabric and Overlay)

A chip and seal prior to an overlay with 1.5 inches of S9.5B may prove to be the most cost effective solution. We recommend proofrolling the asphalt pavement with a loaded single axle water truck to delineate areas of asphalt that may require patching and subgrade repair prior to chip and sealing. Once areas are patched a chip and seal should be placed to mitigate reflective cracking. Alternatively a pavement fabric such as a Mirafi MPV or equivalent could be used in lieu of the chip seal. Please note that either of these methods will only retard reflective cracking and reduce the effective life of the overlay.

CLOSURE

This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written permission of ECS. The unauthorized use of this report by any undesignated third party or parties will be at such party's sole risk and ECS disclaims liability for any such unauthorized third party use or reliance.

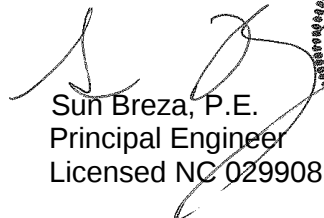
ECS appreciates the opportunity to provide our professional services during this phase of your project. Please contact us if you have questions concerning the following report or if we may be assistance in developing bid forms, a FDR mix design or a site specific pavement design.

Respectfully,

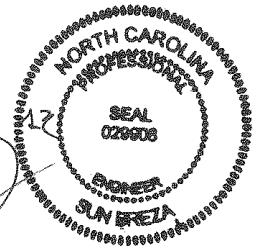
ECS CAROLINAS, LLP



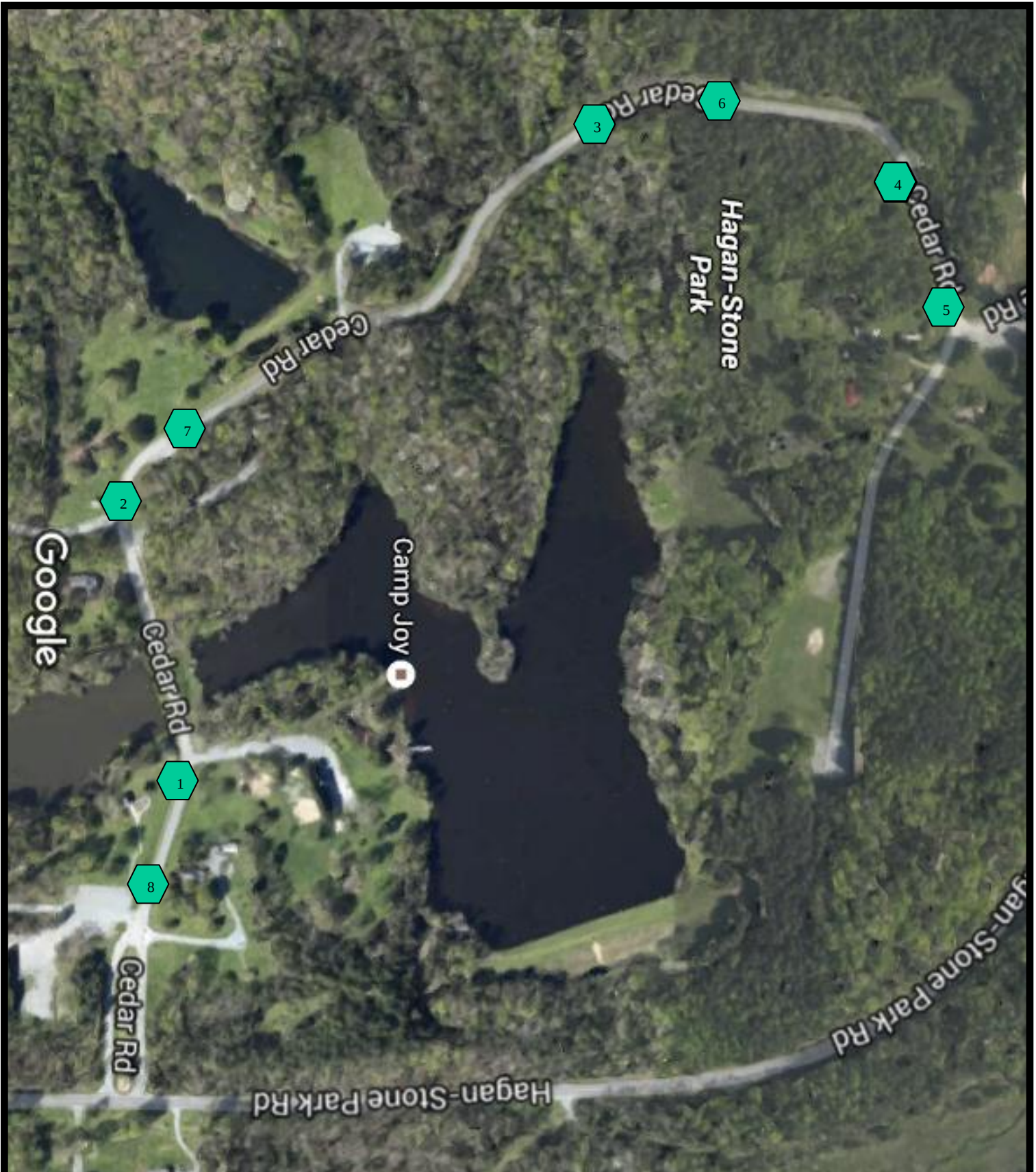
Chris Bolen
Project Manager



Sun Breza, P.E.
Principal Engineer
Licensed NC 029908



Attachments: Coring Location Diagram
Hand Auger Record



SOURCE:

Google Maps

SCALE: NTS



FIGURE 1

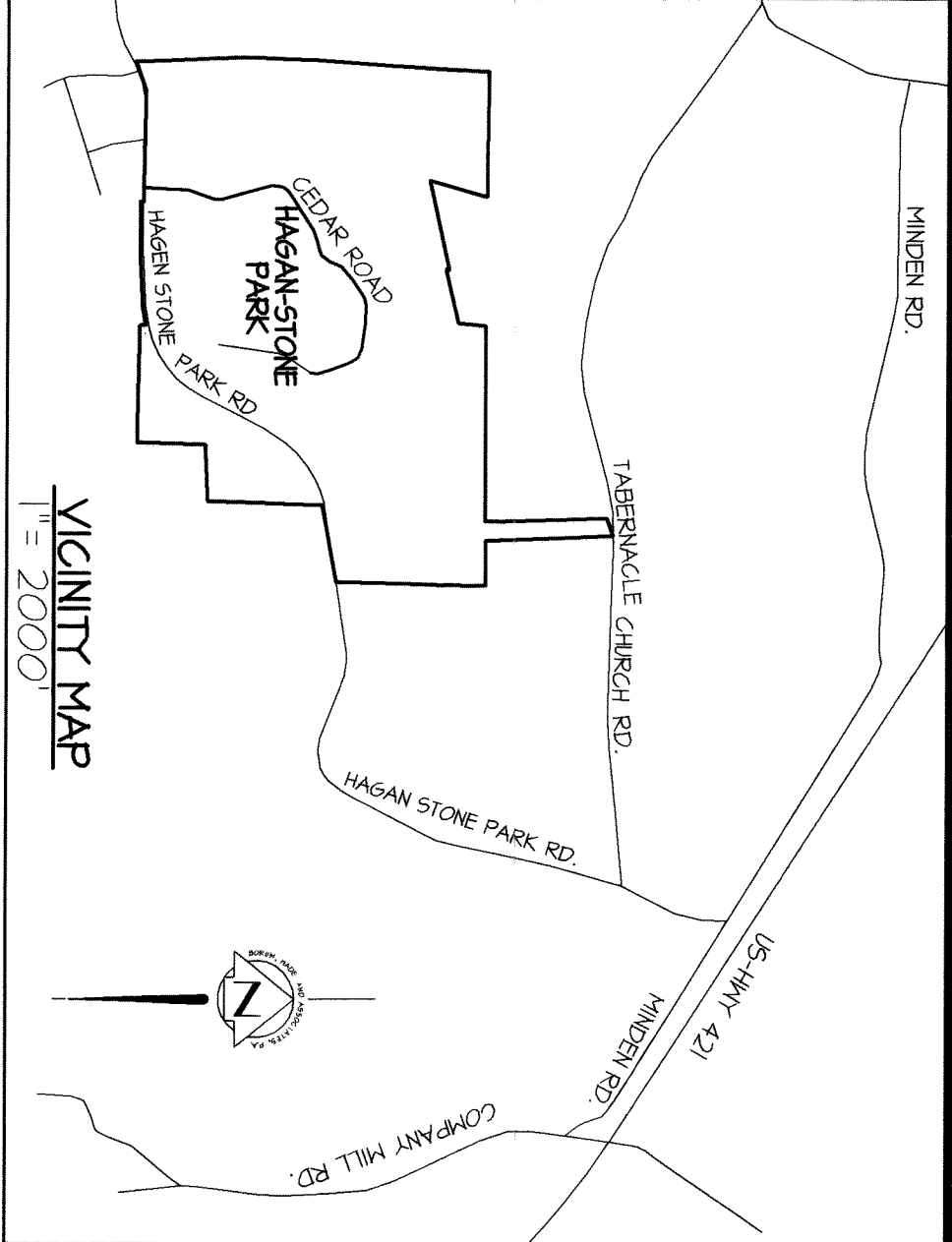
CORE LOCATION MAP
HAGAN-STONE PARK
CEDAR ROAD
PLEASANT GARDEN, NORTH CAROLINA

ECS PROJECT NO. 09-26670



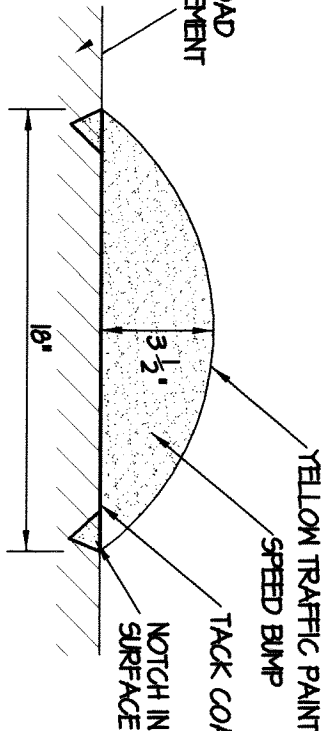
ECS Project Name: _____ ECS Project No.: _____
Date: _____ Technician: _____

[illegible]



PHASE 2
BID AREA

PHASE 2
ALTERNATE BID AREA



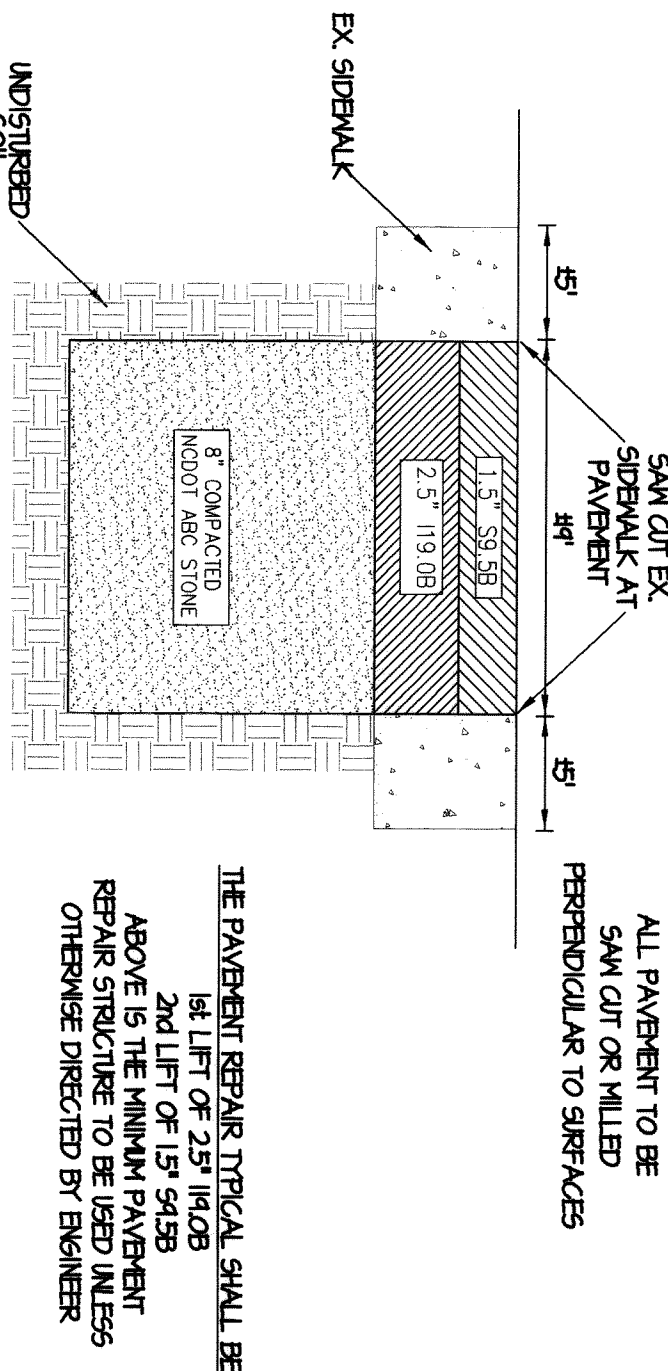
SPEED BUMP DETAIL

N.T.S.

ALL ASPHALT PAVEMENT REPLACED SHALL BE IN ACCORDANCE WITH THE MOST CURRENT NC DOT STANDARD SPECIFICATIONS. BASE COURSE DEPTH SHALL BE 100%.

SPEED BUMP NOTES:

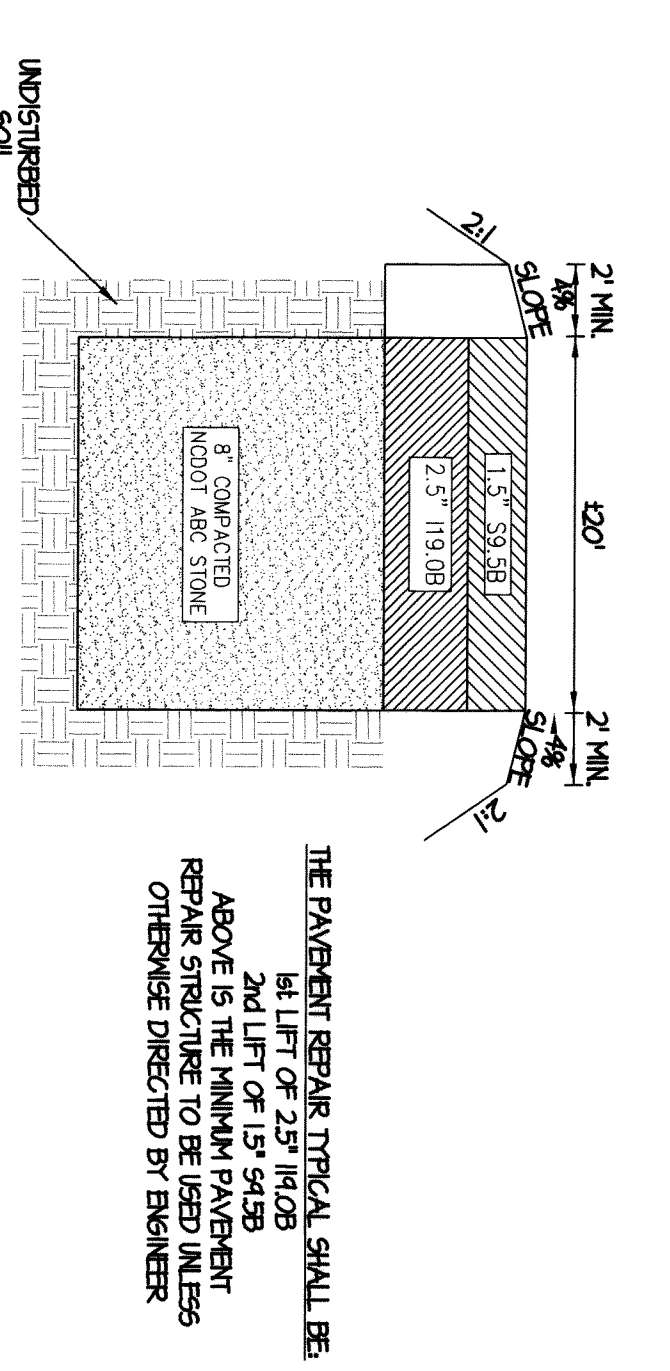
1. CLEAN AREA OF ALL DIRT AND DEBRIS.
2. NOTCH DURING ASPHALT SURFACE TO ALIBRATE SPEED BUMP DISPLACEMENT.
3. TACK COAT AREA OF INSTALLATION USING LIQUID ASPHALT.
4. INSTALL HOT MIX SURFACE ASPHALT TO A MAXIMUM THICKNESS OF 3-1/2" AT THE AREA AND A MINIMUM OF 8".
5. APPLY A SEAL OF LIQUID ASPHALT TO THE ADJOINING EDGE OF THE REPAVEMENT TO THE HELP PREVENT MOISTURE PENETRATION.
6. APPLY A HEAVY DUTY REFLECTIVE TRAFFIC PAINT SUFFICIENT TO OBSCURE THE SPEED BUMP.



REMOVE AND REPLACE PAVEMENT REPAIR DETAIL (PHASE 2 BASE BID)

N.T.S.

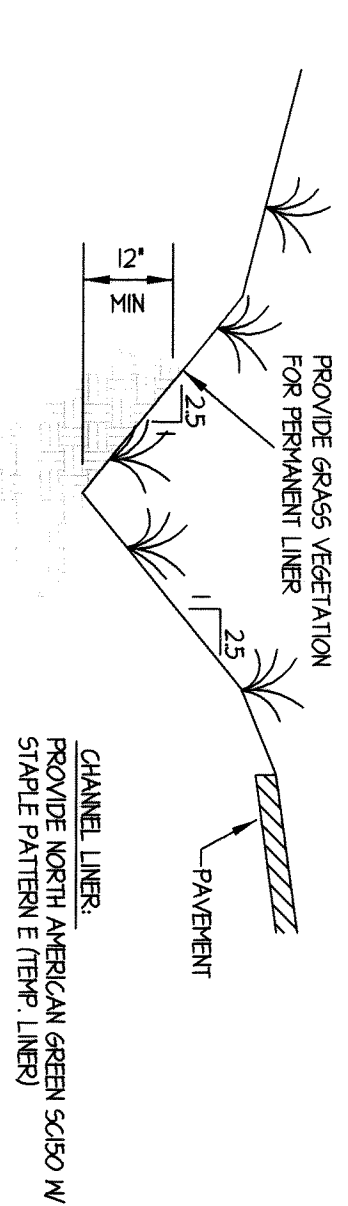
ALL ASPHALT PAVEMENT REPLACED SHALL BE IN ACCORDANCE WITH THE MOST CURRENT NC DOT STANDARD SPECIFICATIONS. BASE COURSE DEPTH SHALL BE 100%.



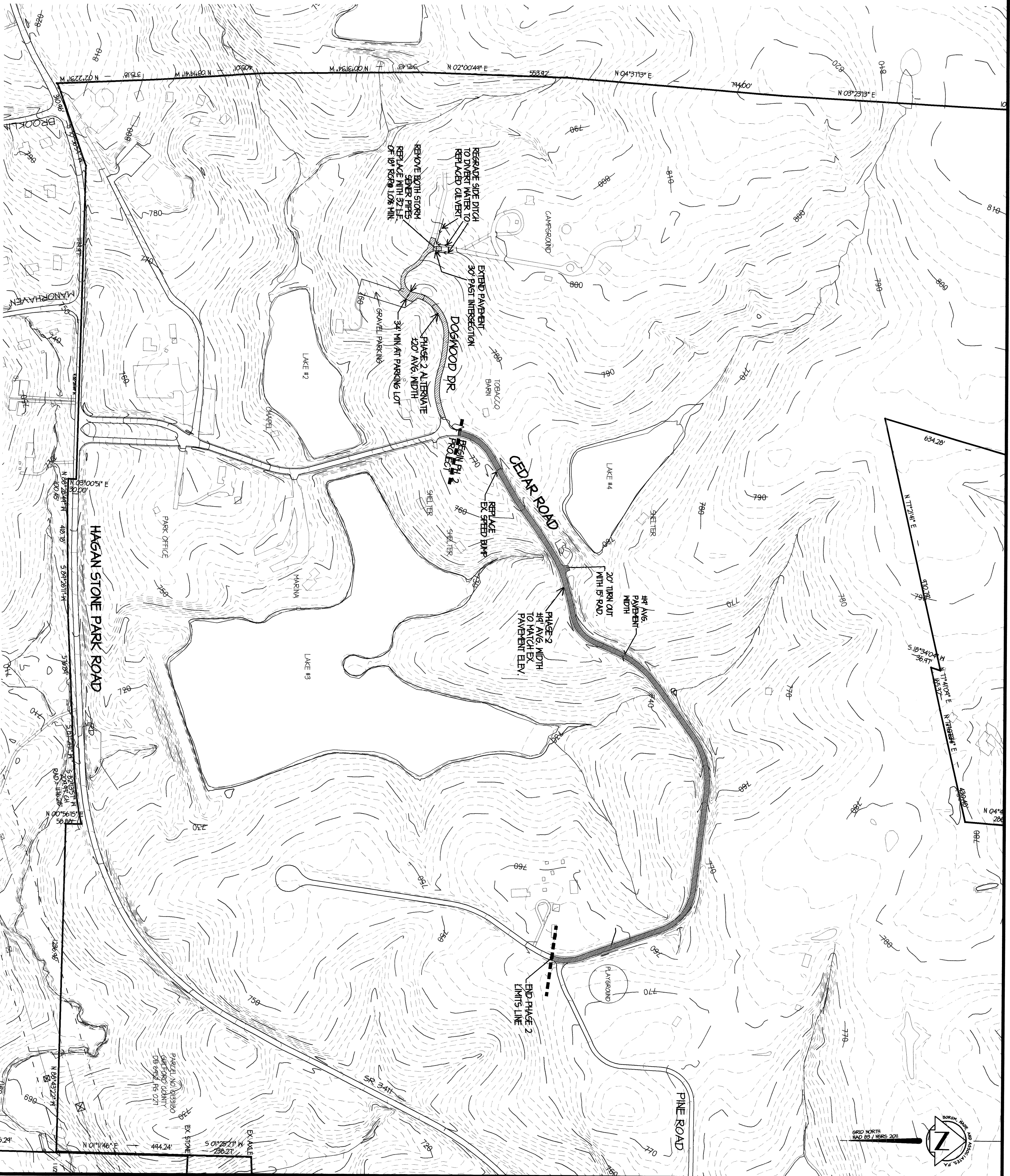
REMOVE AND REPLACE PAVEMENT REPAIR DETAIL (PHASE 2 ALTERNATE)

N.T.S.

ALL ASPHALT PAVEMENT REPLACED SHALL BE IN ACCORDANCE WITH THE MOST CURRENT NC DOT STANDARD SPECIFICATIONS. BASE COURSE DEPTH SHALL BE 100%.



SIDE DITCH SECTION



PAVEMENT RECONSTRUCTION CONSTRUCTION SEQUENCE

1. SCHEDULE PRE-CONSTRUCTION MEETING WITH GRADING CONTRACTOR AND COUNTY STAFF TO DISCUSS CONSTRUCTION SEQUENCE.
2. CLOSURE ROAD 5 TO BEHIND OPEN FOR ONE WAY TRAFFIC DURING NORMAL BUSINESS HOURS.
3. REMOVE ASPHALT AND DISPOSE OF OFFSITE.
4. REMOVE EXISTING STONE BASE UNDER PAVEMENT AND STOCKPILE IF REUSABLE. AS DETERMINED BY GEOTECHNICAL ENGINEER ON-SITE. IF STONE IS CONTAMINATED THEN REMOVE BY HAULING OFFSITE.
5. AFTER SUBGRADE IS COMPLETED, THEN PLACE STONE AND PAVEMENT.
6. RESURFCE ROAD TO MATCH EXISTING STRIPING.

PAVEMENT REPAIR NOTES:

1. ASPHALTIC PAVEMENT TO BE REMOVED ENTER THROUGH MILLING OR DEMOLITION.
2. IF EXISTING STONE BASE IS NOT CONTAMINATED WITH SIGNIFICANT AMOUNTS OF SOIL OR EXCESSIVELY WEET IT SHOULD BE STOCKPILED FOR POSSIBLE REUSE. GEOTECHNICAL ENGINEER TO VERIFY.
3. FOLLOWING REMOVAL OF ASPHALT AND STONE EXPOSED SUBGRADE SHOULD BE RECONSTRUCTED.
4. AFTER ROOF ROLLING CERTAIN AREAS MAY BE UNDER CUT TO 12 INCHES BELOW THE BOTTOM OF PAVEMENT ELEVATION. FLEAVED ON THE AREAS EVALUATED. IT AREAS THAT AREAS REQUIRING UNDERCUT WILL BE ISOLATED; HOWEVER, ON-SITE GEOTECHNICAL ENGINEER WILL MAKE FINAL DECISION. (STOCKPILED AGG. STONE CAN BE USED IF APPROVED BY THE GEOTECHNICAL ENGINEER).

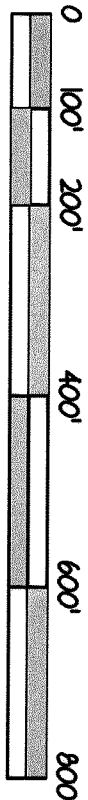
GENERAL NOTES

1. BOUNDARY INFORMATION TAKEN FROM AS-BUILT SURVEY BY BORM, WADE & ASSOCIATES, P.A. AND RECORDED INFORMATION.
2. CONTRACTOR IS TO COORDINATE ANY REQUIRED INSPECTIONS WITH GUILFORD COUNTY. ● 336-641-5965.
3. ALL CONSTRUCTION TO BE PER NC DOT STANDARDS AND GUILFORD COUNTY STANDARDS.
4. CONTRACTOR TO RELOCATE EX UTILITIES IF REQUIRED.
5. CONTRACTOR TO COORDINATE SCHEDULE WITH ON-SITE COUNTY FACILITY MANAGEMENT.
6. CONTRACTOR TO VISIT SITE PRIOR TO BIDDING.
7. DATED APRIL 1, 2016.
8. ANY EXISTING SUBGRADE DAMAGED BY CONTRACTOR SHALL BE REPAIRED.

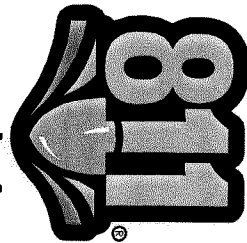
BID OPTION 'B' FILL DEPTH RECLAMATION

FILL DEPTH RECLAMATION (FTR) REQUIRES BUILDING OF THE EXISTING SUBGRADE SOILS, AGG. STONE BASE, AND ASPHALT WITH A PREDETERMINED PERCENTAGE OF DEBRIS AND WATER. CONTRACTOR TO BLADE THE SECTION OF FTR TO A DEPTH OF 10 INCHES PRIOR TO REMOVING 2 INCHES OF THE BLENDED MATERIAL TO PROVIDE THE SURFACE FOR THE PAVEMENT SECTION CONSISTING OF 2 INCHES OF SUBS. GEOTECHNICAL ENGINEER REQUIRED TO FURNISH HIS DESIGN TO DETERMINE THE OPTIMUM PERCENTAGE OF DEBRIS AND WATER TO BE IN ACCORDANCE TO NC DOT STANDARDS.

GRAPHIC SCALE



Know what's below.
Call before you dig.

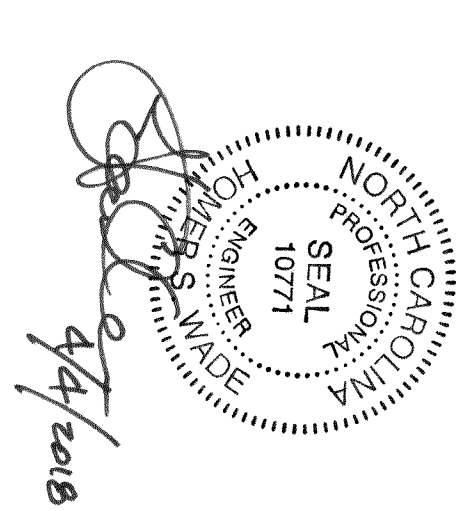


HAGAN STONE PARK PAVEMENT REPAIR PHASE 2

HAGAN STONE PARK ROAD

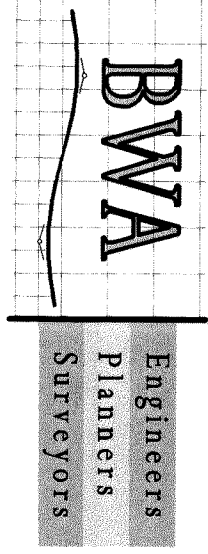
FENTRESS/CLAY TOWNSHIP, GUILFORD COUNTY
PLESAND GARDEN, NORTH CAROLINA

PROJECT:



SEALS:

Borum, Wade and Associates, P.A.
631 Fagot Court, Suite 100, Greensboro, NC 27401-2711
PO Box 11883 Greensboro, NC 27403-1883
Phone: 336-735-9471 Fax: 336-735-9119
Web: www.borum-wade.com
N.C. License #: C-0888



OWNER/REOWNER:

GUILFORD COUNTY
FACILITIES & PARKS DEPT.
PO BOX 3421
GREENSBORO, NC 27402
CONTACT: JAMES WALDBERG

DESIGN BY: MAM

DATE: APRIL 4, 2016

REVISIONS:

SHEET TITLE:

PAVEMENT REPAIR
PLAN
PHASE 2

FILE NO.: FINAL - CONSTRUCTION PERMITS

DRAWING SCALE: 1\"/>

PLAN SHEET NO.

C1



FACILITIES, PROPERTY MANAGEMENT & PARKS DEPARTMENT
301 West Market Street Suite 400
Greensboro, North Carolina 27401

Proposal Review Findings/Recommendations

Date: May 9, 2018

Susan Crotts, Director
Guilford County Purchasing Dept.
Event #605

515500-53290

Project Information:

Pavement Repairs – Phase 2
Hagan Stone Park
5920 Hagan Stone Park Road
Pleasant Garden, NC

The bids for the Paving Repairs project - Phase 2 at the Hagan Stone Park, 5920 Hagan Stone Park Road, Pleasant Garden, NC were opened on April 19, 2018, there were two (2) bids received. The bids are listed below:

Name	Base bid	Alternate # 1	MWBE	%
P&S Grading, LLC	\$297,533.00	\$118,551.25	\$50,000 (FB)	12%
Ruston Paving	\$287,356.00	\$108,162.00	\$39,700 (FAB)	10%

Of the two bids received the one from *Ruston Paving Co, Inc.* with the base bid in the amount of \$287,356.00 and the alternate bid of \$108,162.00 appears to be the low responsive and responsible bidder.

Recommendations:

The proposal received from *Ruston Paving Co, Inc.* has been reviewed and it is recommended that a Purchase Order/Contract be awarded to *Ruston Paving Co, Inc.* in the amount of \$287,356.00 for the base bid and \$108,162.00 for Alternate # 1 for a total of \$395,518.00.

Due to this being a repair project it is recommended that we add a 10% contingency to the contract amount for unforeseen conditions. It is recommended that the total award amount be \$435,000.00 (Base bid \$395,518.00 plus \$39,482.00 contingency).



Guilford County

STATE of NORTH CAROLINA

Contact information for the Contractor:

Ruston Paving Co, Inc.
204 South Regional Road
Greensboro, NC 27409
Attn: Mike Ruston
336-297-9494

The proposal from *Ruston Paving Co, Inc.* is considered to be fair and reasonable and awarded is recommended in the amount of \$435,000.00 with sixty (60) day construction time.

 5/9/18
Jim Halberg
Facilities Project Manager


Concurrence
Robert McNiece – Director

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

DOCUMENT 00480 -- NON-COLLUSION AFFIDAVIT

STATE OF (North Carolina)

()SS.

COUNTY OF (Guilford)

I, Mike Ruston, of the Municipality of
Pleasant Garden, In the County of Guilford and the
State of North Carolina, of full age, being duly sworn according to law on my
oath depose and say that:

I am Project Manager, of the firm of
Ruston Paving Co., Inc., making the Proposal for
the above- named authority.

My submission of a response to this event certifies that I agree to the non-collusion agreement
contained below:

1. The submitter of this document is acting as an agent for their company who is the respondent that has submitted the attached bid response.
2. The undersigned person is fully informed concerning the preparation and contents of the attached response and of all pertinent circumstances related to it, and is authorized to sign this affidavit. This affidavit is given under penalty of perjury as provided by law.
3. Such bid response is genuine and is not collusive or sham in anyway whatsoever.
4. Neither the person responding nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including the signer of this affidavit, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other respondent, firm or person to submit collusive or sham response in connection with the contract for which the attached response has been submitted or to refrain from responding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other responder, firm or person to fix the price, or cost to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Board of County Commissioners, Guilford County or any person interested in the proposed contract.
5. The price or prices quoted in the attached response are fair and proper and are not derived by any collusion, conspiracy, connivance or lawful agreement and on the part of the respondent or any of its agents, representatives, owners, employees, or parties in interest.

Ruston Paving Co., Inc.

(Name of Contractor)

Mike Ruston Mike Ruston Project Manager 4/18/18
Signature (Type or Print Name) Title Date

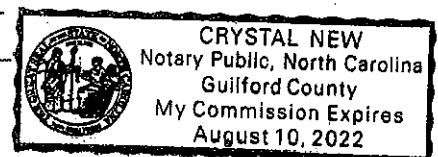
Subscribed and sworn to before me on this 18th day of April, 2018.

Crystal New CRYSTAL NEW
Signature (Type or Print Name)

Notary Public of the State of North Carolina

My Commission expires 8-10-2022, 20

END OF DOCUMENT 00480



**Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2**

DOCUMENT 00300 – FORM OF PROPOSAL

Attention: Terri Hall, Administrative Officer – Guilford County Facilities and Parks

Event Number: EVENT #605
 Bidder: Ruston Paving Co., Inc.
 Address: 204 S. Regional Road, Greensboro, NC 27409
 Telephone #: 336-297-9494
 Bid Date: April 19, 2018

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder, by signing below, in consideration of the mutual promises, contained herein and other good and valuable consideration, the receipt and sufficiency hereby acknowledged, agrees to the terms and conditions set out herein.

Bidder agrees that upon acceptance the Guilford County, this Bid Package shall be deemed as a binding contract subject to the terms set out herein. It is acknowledged that the terms in the Section 00500-1 *et seq.*, entitled Contract, shall be binding should any issues arise over possibly inconsistent or conflicting language. This Contract shall be in full force and effect upon execution by all parties for the terms as set forth in Section 4, of the Contract found in Section 00500.

Bidder further agree to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the:

**Event #605
Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan Stone Park Paving Repair Phase 2**

in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the

GUILFORD COUNTY FACILITIES AND PARKS DEPARTMENT and Borum, Wade & Associates, P.A.

with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00300 – FORM OF PROPOSAL

SINGLE PRIME CONTRACT:

BASE BID:

Option B: Road Repair Using Full Depth Reclamation Dollars(\$) 287,356.00

GENERAL CONTRACTOR:

Ruston Paving Co., Inc. Lic 43221

ELECTRICAL SUBCONTRACTOR:

N/A Lic _____

MECHANICAL SUBCONTRACTOR:

N/A Lic _____

_____ Lic _____

GUILFORD COUNTY:

ATTEST:

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

SINGLE PRIME CONTRACT:

ALTERNATE BID:

Option B: Road Repair Using Full Depth Reclamation Dollars(\$) 108,162.00

GENERAL CONTRACTOR:

Ruston Paving Co., Inc. Lic 43221

GUILFORD COUNTY:

ATTEST:

Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00300 – FORM OF PROPOSAL

PROJECT DURATION

Bid Project Duration is 60 Calendar days from notice to proceed).

ATTACHMENTS TO BE INCLUDED WITH PROPOSAL

1. Minority Business Participation Requirements and Affidavits

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify on its bid (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. Also list the good faith efforts (Affidavit A) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of Affidavit (A) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit D is not necessary;

*** OR ***

If less than the 10% goal, Affidavit (D) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit with their bid the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit A or Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

- 2. Document 00335 - E-Verify Affidavit**
- 3. Document 00480 - Non-Collusion Affidavit.**
- 4. Document 00486 - Consent of Surety**
- 5. Document 00490 –Contractor's Qualification Statement (AIA A305)**
- 6. Bid bond, cashier's check or certified check, payable to Guilford County in the amount of not less than 5% of the bid.**
- 7. Any other bid forms required by the Document 00200 INSTRUCTIONS TO BIDDERS.**

Hagan-Stone Park
 5920 Hagan-Stone Park Road
Hagan-Stone Park Pavement Repair Phase 2

DOCUMENT 00300 – FORM OF PROPOSAL**PROPOSAL SIGNATURE PAGE**

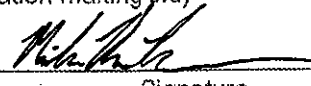
The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of April 19, 2018

Ruston Paving Co., Inc.

(Name of firm or corporation making bid)

WITNESS:

By: 

Signature

Name: Mike Ruston

Print or type

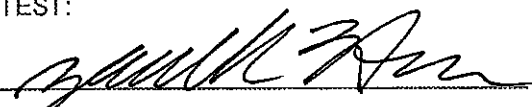
Title: Project Manager

(Owner/Partner/Pres./V.Pres)

Address 204 S. Regional Road

Greensboro, NC 27409

ATTEST:

By: 

Title: SUPERINTENDENT

(Corp. Sec. or Asst. Sec. only)

License No. NC 43221

Federal I.D. No. 16-0925714

Email Address: Mike.Ruston@rustonpaving.com

(AFFIX CORPORATE SEAL)

Acknowledge of non-mandatory prebid walk-through/site access attendance:

General Contractor (Y) (N)

Acknowledge attachments included with proposal:

Attachment No. 1 A ☒, B ☐, C ☐, D ☐ (check all that apply)

Attachment No. 2 ☒, Attachment No. 3 ☒, Attachment No. 4 ☒, Attachment No. 5 ☒,

Attachment No. 6 ☒, Attachment No. 7 (List Other) _____

Acknowledge addendum received and used in computing bid:

Addendum No. 1 4/16/18 Addendum No. 3 _____ Addendum No. 5 _____ Addendum No. 6 _____

Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____ Addendum No. 7 _____

END OF DOCUMENT 00100

OPTION B (Base Bid)- ROAD REPAIR USING FULL DEPTH RECLAMATION

Division	Discription	Scheduled Amount
-----------------	--------------------	-------------------------

DIVISION 0

Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ <u>5,850.00</u>
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DIVISION 1

SECTION 01210	ALLOWANCES	\$ <u>15,000</u>
SECTION 01310	PROJECT COORDINATION	\$ <u>4,500.00</u>
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ <u>4,500.00</u>
SECTION 01500	TEMPORARY FACILITIES	\$ <u>8,000.00</u>
SECTION 01740	FINAL CLEANING	\$ <u>3,490.00</u>
SECTION 01781	PROJECT CLOSEOUT	\$ <u>0</u>
SECTION 01788	WARRANTIES	\$ <u>0</u>

DIVISION 32

EXTERIOR IMPROVEMENTS

SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE) 5,788 SY @\$ <u>23.00</u> /SY =	\$ <u>133,124.00</u>
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SECTION 321216	ASPHALT PAVING 5,788 SY @\$ <u>16.50</u> /SY =	\$ <u>95,502.00</u>
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SECTION 321313	CONCRETE PAVING 260 SF @ <u>9.00</u> /SF=	\$ <u>2,340.00</u>
----------------	---	--------------------

RESTRIPING PAVEMENT LUMP SUM	\$ <u>5,560.00</u>
------------------------------	--------------------

SPEED BUMP LUMP SUM	\$ <u>500.00</u>
---------------------	------------------

TESTING

CONTRACTOR REQUIRED TESTING	\$ <u>9,000.00</u>
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TOTAL	\$ <u>287,356.00</u>
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OPTION B (Alternate Bid) - ROAD REPAIR USING FULL DEPTH RECLAMATION

Division	Description	Scheduled Amount
<u>DIVISION 0</u>		
Document 00821	GENERAL CONDITIONS OF THE CONTRACT	\$ <u>3,200.00</u>
<u>DIVISION 1</u>		
SECTION 01210	ALLOWANCES	\$ <u>15.000</u>
SECTION 01310	PROJECT COORDINATION	\$ <u>2,000.00</u>
SECTION 01450	QUALITY CONTROL/QUALITY ASSURANCE	\$ <u>2,000.00</u>
SECTION 01500	TEMPORARY FACILITIES	\$ <u>2,750.00</u>
SECTION 01740	FINAL CLEANING	\$ <u>1,044.00</u>
SECTION 01781	PROJECT CLOSEOUT	\$ <u>0</u>
SECTION 01788	WARRANTIES	\$ <u>0</u>
<u>DIVISION 2</u>		
SECTION 024100	DEMOLITION	
	REMOVE EX. STORM PIPE	
	2 EA @\$ <u>1,000.00</u> /EA =	\$ <u>2,000.00</u>
<u>DIVISION 31</u>	EARTHWORK METHODS	
SECTION 312333	GRADE SIDE DITCH/ W MATTING	
	240 LF @ \$ <u>14.00</u> /LF=	\$ <u>3,360.00</u>
	EROSION CONTROL RIP RAP	
	5 TN @ \$ <u>60.00</u> /TN=	\$ <u>300.00</u>
	CLEANING EX. STORM PIPES	
	2 EA @\$ <u>650.00</u> /EA=	\$ <u>1,300.00</u>
<u>DIVISION 32</u>		
SECTION 320123	REMOVE, REMEDIATE, REPLACE EX. SUBGRADE STONE (INCLUDES HAUL OFF OF EXCESS SUBGRADE)	
	1,743 SY @\$ <u>19.00</u> /SY =	\$ <u>33,117.00</u>
SECTION 321216	ASPHALT PAVING	
	1,743 SY @\$ <u>17.00</u> /SY =	\$ <u>29,631.00</u>
	RESTRIPING PAVEMENT LUMP SUM	\$ <u>1,510.00</u>
	SPEED BUMP LUMP SUM	\$ <u>500.00</u>
SECTION 329219	SEEDING LUMP SUM	\$ <u>2,500.00</u>
<u>DIVISION 33</u>	UTILITIES	
SECTION 330539	30" RCP	
	30 LF @ \$ <u>65.00</u> /LF=	\$ <u>1,950.00</u>
<u>TESTING</u>		
CONTRACTOR REQUIRED TESTING		\$ <u>6,000.00</u>
TOTAL		\$ <u>108,162.00</u>

END OF SECTION 00311

**Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2**

DOCUMENT 00330 – MBE GUIDELINES AND AFFIDAVITS

COVER PAGE INCLUSIVE OF

1. REQUIREMENTS PERTAINING TO THE PARTICIPATION OF MINORITY BUSINESSES IN BUILDING (CONSTRUCTION – REPAIR) CONTRACTS FOR GUILFORD COUNTY, NC
2. IDENTIFICATION OF MINORITY BUSINESSES PARTICIPATION *(Attach to Bid)*
3. AFFIDAVIT A – LISTING OF THE GOOD FAITH EFFORT *(Attach to Bid)*
4. AFFIDAVIT B - INTENT TO PERFORM CONTRACT WITH OWN WORKFORCE *(Attach to Bid)*
5. AFFIDAVIT C – PORTION OF THE WORK TO BE PERFORMED BY MINORITY FIRMS (Do not submit with *bid*)
6. AFFIDAVIT D – GOOD FAITH EFFORTS *(To be submitted only by the apparent lowest responsible, responsive bidder)*
7. APPENDIX E – MBE DOCUMENTATION FOR CONTRACT PAYMENTS *(To be submitted with each pay request – Final Payments – Final Reports by awarded bidder)*

**REQUIREMENTS PERTAINING TO THE PARTICIPATION OF MINORITY BUSINESSES IN BUILDING
(CONSTRUCTION - REPAIR) CONTRACTS FOR GUILFORD COUNTY, N.C.**

Date 1-1-02

One primary responsibility of Guilford County (GC) government is the proper use of public revenue to purchase the various items, services, construction and repairs needed to operate. All expenditures of county funds must be in accordance with the NC laws. Construction contracts are subject to applicable laws, including Article 8, N.C.G.S. Chapter 143, which shall control in the event of any conflict.

For building (construction - repair), whose estimated total cost is \$500,000 or more, a formal bid process is required. This generally consists of written specifications, advertisement, bid bond, usually a prebid meeting, at least three responses on the first opening, public opening of bids, Commissioners' approval, notice of award to all participants, and written contract.

Specifications for building (construction - repair) projects requiring an expenditure of \$500,000 or more requires separate specifications for the following areas of work:

- Heating, Ventilating and Air Conditioning (HVAC)
- Plumbing
- Electrical
- General

and may be bid separate-prime (allowing bids for each of the above categories), single-prime (a bid for the total project), or dual-prime, as provided in Article 8, N.C.G.S. Chapter 143. Award is made to the lowest responsive, responsible bidder(s), as provided by law.

Contractors who bid single-prime must identify in their bid response the names of each sub-contractor for HVAC, Plumbing and Electrical.

For building (construction - repair) projects requiring an expenditure of \$100,000 or more, state law (G.S. 143-128.2) requires the public government (awarding authority) involved to adopt, after a public notice and a public hearing, an appropriate verifiable percentage goal for participation by minority business in the total value of work for each building (construction - repair) contract awarded. G.S. 143-128.2 must be read, understood, and complied with by each bidder.

Guilford County has established its verifiable minority participation goal on 3-5-90 at ten (10) percent.

In addition, each separate-prime and single-prime contractor must establish its own goal when dealing with sub-contractors and provide appropriate documentation to the awarding authority.

In each case, the responsibilities of auditing and compliance with this law is that of the awarding authority, which in this case is Guilford County.

A minority business is defined as ownership of 51% or more by a minority. Minorities are officially defined as:

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

(Requirements - continued)

The Guilford County method of compliance is basically as follows:

1. For any expenditure of funds, including building construction and repair, it is GC's policy to give every supplier, business or contractor in Guilford County an equal and fair opportunity to participate. In order to accomplish this, we maintain a list of all suppliers, businesses and contractors. We have also identified all minorities on this list and we update this list on a continuous basis.
2. When bids are needed for any item, service, construction or repair, we make sure that all on our list are contacted by mail and/or phone. Larger expenditure items requiring formal bids are advertised.
3. All building construction and repair contracts over \$500,000 would be in the formal bid range requiring the mailing of bid packages (specifications), advertising and prebid meetings. All contractors on our list will either be mailed a copy of the bid package or notified in writing as to how a bid package can be obtained. All contractors on our list will also be invited to our prebid meetings.
4. In our bid package and at our prebid meeting, we explain that every contractor will be given an equal opportunity to obtain all or part of the contract award. Guilford County is ready and willing to work with any contractor to help it understand and properly compete for contract awards. The other requirements of G.S. 143-128.2 and G.S. 143-128.3 will be complied with by the County, when applicable.
5. Guilford County maintains a record as to who was awarded contracts and with the minority identification GC can state the percentage of minority participation.
6. This goal of ten (10) percent is a goal, and is not a requirement, demand, set aside or guarantee to minorities. It is, however, a serious goal and we seek to achieve this goal, as explained above, by continuing to give every supplier, business and contractor an equal opportunity to participate but to make all purchases and to award all contracts on the basis of best value.
7. All bidders shall make the minority participation disclosures required by G.S. 143-128.2(c) and comply with the other requirements of G.S. 143-128.2.

The state law requires and Guilford County expects its contractors to deal with their sub-contractors in the same manner and the state law and Guilford County require verification that this approach is being followed. The minority percentage goal set by each contractor for their sub-contractors is up to them and does not necessarily have to agree with the ten (10) percent which has been set by Guilford County. The method in which all prime contractors plan to attain this goal is, however, very important to GC and must be fully explained and it will be audited by GC.

Guilford County will help any contractor in this effort by supplying a list of all minority suppliers by trade category. Guilford County will consider a "good faith" effort by the contractor involved if the contractor makes a positive effort to contact each minority supplier and to allow each an equal opportunity to quote on the particular work involved.

If anyone has questions concerning GC's approach to the minority participation percentage goal, what is covered here, what is covered by the GC resolution, or the NC laws, they should contact Guilford County Purchasing at 336-641-3226.

(Requirements - continued)

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide on the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identity of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

Note: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of the participation form and Affidavit (**A**) required above.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

OR

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall

be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must submit **with their bid** the Identification of *Minority Business Participation* list and Affidavit **A** or Affidavit **B** as applicable. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder may be grounds for rejection of the bid.

R09-02

(Name of Bidder)

00330-5

Attach to Bid

Attach to Bid

Attach to Bid

Attach to Bid

Attach to Bid

State of North Carolina - AFFIDAVIT A - Listing of the Good Faith Effort

County of Guilford

Affidavit of Ruston Paving Co., Inc.

(Name of Bidder)

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

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

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

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

Date: 4/18/2018 Name of Authorized Officer: Mike Ruston

Signature: [Signature]

Title: Project Manager

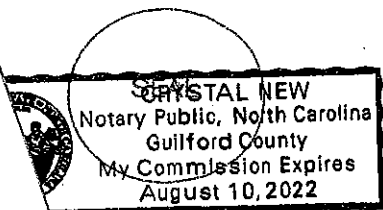
State of North Carolina, County of Guilford

Subscribed and sworn to before me this 18th day of April 20 18

Notary Public Cynthia D. New

My commission expires 8-10-2022

R09-02



Hagan-Stone Park
5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

SECTION 00481 – STATEMENT OF OWNERSHIP

I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued outstanding stock of the undersigned corporation. If one or more such stockholder or partner is itself a corporation or partnership, the stockholder holding 10% or more of that corporation's stock, or the individual partners owning 10% or greater interest in that partnership, as the case may be, are also listed.

Ruston Paving Co., Inc.

Corporate Name

Attest:

[Signature]

Date:

April 18, 2018

SUPERINTENDENT

Secretary

[Signature]

Officer

ZACK HORAN

(Also, Print/Type Name)

Mike Ruston

(Also, Print/Type Name)

Affix Corporation Seal

Stockholders:

Name:

Mark Ruston

Home Address:

140 W. Franklin Street, UNIT 424

Chapel Hill, NC 27516

Name:

Home Address:

Name:

Home Address:

END OF DOCUMENT 00481

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A305

Contractor's Qualification Statement**1986 EDITION**

This form is approved and recommended by the American Institute of Architects (AIA and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by the AIA or AGC.

The undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: **Guilford County Facilities & Parks**

SUBMITTED BY: **Donald T. Barry**
Director of Business Development

Corporation X
Partnership
Individual
Joint Venture
Other

ADDRESS: **Ruston Paving Co., Inc.**
204 South Regional Rd
Greensboro, NC 27409

PRINCIPAL OFFICE:

NAME OF PROJECT: **Hagan-Stone Park Phase 2**

TYPE OF WORK (file separate form for each Classification of Work):

List Bid Package No. from Notice Section:

Option B: Full Depth Reclamation

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AIA DOCUMENT A305 * CONTRACTOR'S QUALIFICATION STATEMENT * 1986 EDITION * 1986 THE AMERICAN INSTITUTE OF ARCHITECTS 1735 NEW YORK AVENUE, N.W., WASHINGTON, D.C. 20006

A305-1986 1

1. ORGANIZATION

- 1.1 How many years has your organization been in business as a Contractor?

75 years

- 1.2 How many years has your organization been in business under its present business name?

75 years

- 1.2.1 Under what other or former names has your organization operated?

- 1.3 If your organization is a corporation, answer the following:

1.3.1 Date of incorporation: **July 25, 1967**

1.3.2 State of incorporation: **New York**

1.3.3 President's Name: **Mark Ruston**

1.3.4 Vice President's name(s):

1.3.6 Secretary's name:

1.3.7 Treasurer's name:

- 1.4 If your organization is a partnership, answer the following:

1.4.1 Date of organization:

1.4.2 Type of partnership (if applicable):

1.4.3 Name(s) of general partner(s):

- 1.5 If your organization is individually owned, answer the following:

1.5.1 Date of organization:

1.5.2 Name of owner:

If the form of your organization is other than those listed above, describe and name the principals:

2. LICENSING

- 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable:

**NC (NC GC# 43221), VA (2705 100019),
DC (410513000297), MD (03120376), NY**

- 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

North Carolina, New York, Virginia, Maryland and Washington D.C.

3. EXPERIENCE

- 3.1 List the categories of work that your organization normally performs with its own forces

**asphalt paving, excavation, grading, asphalt reclamation,
asphalt milling, soil stabilization, storm water drainage.**

- 3.2 Claims and Suits (If the answer to any of the questions below is yes, please attach details.)

- 3.2.1 Has your organization ever failed to complete any work awarded to it?

No

- 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

No

- 3.2.3 Has your organization filed any lawsuits or requested arbitration with regard to construction contracts within the last five years?

No

- 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

No

- 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of the project, owner, architect, contract amount, percent complete and scheduled completion date.

3.4.1 State total worth of work in progress and under contract:

\$19,138,321 In-Progress; \$25,207,550 Under Contract

- 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of the project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

3.5.1 State average annual amount of construction work performed during the past five years.

\$54,995,784

- 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your corporation.

4. REFERENCES

	Sharpe Brothers	Vulcan Materials	Thompson Arthur APAC
4.1	James Womble	Justin Upchurch	Houston Lytch
	204 Base Leg Rd	2874 NC Hwy 66 South	2859 Hwy. 66 South
	Greensboro, NC 27409	Kernersville, NC 27284	Kernersville, NC 27284
	336-235-2756	336-869-2184	336-412-6866

4.2 Bank References:

Bank: BB&T
Bank Contact: Debbie Richards
Bank Address: 434 Fayetteville St
Raleigh, NC 27611
919-716-9476

4.3 Surety:

4.3.1 Name of bonding company:

Travelers Surety & Casualty Co. of America

4.3.2 Name and address of agent:

Marsh USA, Inc.
Attn: Megan Schlueter
2301 Sugar Bush Road, Suite 220
Raleigh, NC 27612

5. FINANCING (See Attached)

5.1 Financial Statement

- 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other liabilities (e.g., capital, capital stock, authorized and outstanding shares, par values, earned surplus and retained earnings).

- 5.1.2 Name and address of firm preparing attached financial statement, and date there of:

- 5.1.3 Is the attached financial statement for the identical organization named on page one?

- 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent, subsidiary).

- 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

6. SIGNATURE

ATTACHMENT B TO CONTRACT NO. 803 - BID EVENT NO. 605

6.1 Dated at Syracuse, Onondaga County, (City, County) New York (State) on the 16th day of April 2018.

Name of Organization:

Ruston Paving Company, Inc.

By:
Title:
Donald T. Barry
Director of Business Development

Mr. Donald T. Barry being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this the 16th day of April 2018.


Notary Public:
My Commission Expires: May 1, 2018

HEATHER C STREEVER
Notary Public, State of New York
No. 01ST6145353
Qualified in Onondaga County
Commission Expires May 1, 2018

Ruston Paving Co., Inc. Contractor's Qualification Statement Backup

3.4 Current Projects

Project Name	Owner / GC	Contract Amount	Percent Complete	Completion Date
AAFB Ambulatory Care Center	US Federal Govt/ Manhattan Construction	\$1,659,564	34%	12/31/19
West Springfield High School	Fairfax County Public Schools/ Henley Construction	\$1,310,390	52%	12/31/19
Keystone Park Building	Durham KTP Holdings	\$1,530,355	0%	06/30/18
National Museum of the U.S. Army	Army Historical Foundation/ Clark Construction	\$1,150,000	0%	04/30/19
St. James Sports Complex	SJS&W Washington Prop/ LF Jennings	\$1,012,937	42%	08/31/18
NIEHS Pavement	Dept of Health & Human Services/ CMC Building Inc	\$874,265	52%	09/01/18
GTCC CAM Loop	Guilford Cty Comm College/ JM Thompson	\$774,018	0%	05/31/18
Central Carolina CC	Central Carolina Comm College/ New Atlantic Contracting	\$706,671	73%	05/01/18
Airport Corporate	JMI II	\$617,892	27%	09/30/18
Patrick Henry Pre K-8 School	Alexandria City Public Schools/ Keller Brothers Inc	\$615,248	0%	10/31/18

3.5 Past Projects

Project Name	Owner / GC	Contract Amount	Completion Date
Duke Energy	Duke Energy Business Svcs/ REI Construction	\$879,145	11/06/17
IC Campus Wide Paving	Ithaca College	\$992,780	09/25/17
Town Hall Drive	Town of Morrisville	\$677,001	06/30/17
Thomas Jefferson High School	Fairfax County Public Schools/ Henley Construction	\$2,424,494	05/30/17
US Lumber	US Lumber Smithfield Business Park	\$866,385	11/07/16
Biomerieux	Biomerieux	\$1,009,468	10/03/16
Parkway Plaza 2014 Overlay	Durham (Parkway) UY, LLC/ Rivercrest Realty	\$457,447	10/26/15
Little River Elementary	Durham Public Schools BOE	\$299,994	10/12/15
Forestview Elementary	Durham Public Schools BOE	\$263,840	07/31/15
University Mall	College Town Associates/ LF Jennings	\$1,659,156	06/26/15
Hanesbrands	Cassidy Turley	\$650,405	12/15/14
Army Navy Country Club	Suffolk Construction	\$921,029	09/19/14
Walmart	Gilliam & Associates	\$761,607	06/16/14
UNCG - Spartan Village Phase I	Samet Corporation	\$661,605	06/05/14

3.6 Construction Experience of Key Individuals

Name / Title	Project Experience	Duties
Mark Rogers, NC Division Manager	Duke Energy, Town Hall Drive, US Lumber, Biomerieux, Parkway Plaza, Little River Elementary, Forestview Elementary, Hanesbrands, Walmart, UNCG - Spartan Village	Oversee all divisional ops
Mike Ruston, Project Manager	Artisan at Brightleaf Apartments, XPO Logistics, SCM Metal Products, Rams Plaza, Novozymes, Durafeigh Woods, Living Word Family Church, NCDOT Renovations, North Meadows Mobile Home Community, Jasper Engines	Project management
Zack Horan, General Superintendent	All of the above	Coordination of operations
Jeff Corlis, Foreman	All of the above	All site work tasks



Dermody, Burke & Brown, CPAs, LLC

INDEPENDENT ACCOUNTANTS' COMPILATION REPORT

BOARD OF DIRECTORS RUSTON PAVING CO., INC.

Management is responsible for the accompanying balance sheets of **RUSTON PAVING CO., INC.** (a corporation) as of December 31, 2017, 2016 and 2015 in accordance with accounting principles generally accepted in the United States of America. We have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. We did not audit or review the accompanying financial statement nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly we do not express an opinion, a conclusion, nor provide any form of assurance on the financial statement.

Management has elected to omit substantially all of the disclosures required by accounting principles generally accepted in the United States of America. If the omitted disclosures were included with the balance sheet, they might influence the user's conclusions about the Company's financial position. Accordingly, these balance sheets are not designed for those who are not informed about such matters. The statement of total contract revenues was prepared for the purpose of presenting gross revenues for 2017, 2016 and 2015 and is not intended to be a complete presentation of the income statement of Ruston Paving Co., Inc.

These financial statements were compiled by us from full disclosure financial statements for the same period that we previously reviewed as indicated in our report dated March 27, 2018.

Dermody, Burke & Brown

DERMODY, BURKE & BROWN, CPAs, LLC

Auburn, NY

March 27, 2018

443 North Franklin Street • Syracuse, NY 13204-1441 • (315) 471-9171 • Fax (315) 471-8555
1120 Corporate Drive • Auburn, NY 13021-1634 • (315) 253-6273 • Fax (315) 253-0890
4350 Middle Settlement Road • New Hartford, NY 13413-5328 • (315) 732-2991 • Fax (315) 732-0282

<http://www.dbbllc.com>

RUSTON PAVING CO., INC.

BALANCE SHEETS AND STATEMENT OF REVENUES

December 31, 2017, 2016 and 2015

ASSETS			
	2017	2016	2015
CURRENT ASSETS			
Cash	\$ 3,158,003	\$ 3,825,289	\$ 902,008
Accounts Receivable and Contract Retainage	11,783,451	11,607,714	11,008,534
Other Current Assets	89,712	28,832	25,198
Costs and Estimated Earnings in Excess of Billings on Contracts-in-Process	65,029	79,136	32,743
Total Current Assets	<u>15,096,196</u>	<u>15,540,971</u>	<u>15,764,282</u>
PROPERTY AND EQUIPMENT			
Leasehold Improvements	115,927	81,669	81,669
Machinery and Equipment	13,688,538	12,750,230	11,616,613
Furniture and Fixtures	116,900	244,330	244,330
Trucks and Trailers	5,835,468	5,846,523	5,431,501
Vehicles	2,427,782	2,059,766	2,805,155
	<u>22,184,615</u>	<u>20,982,518</u>	<u>20,179,268</u>
Less: Accumulated Depreciation and Amortization	16,712,033	15,651,214	14,471,617
Net Property and Equipment	<u>5,472,582</u>	<u>5,331,304</u>	<u>5,707,651</u>
TOTAL ASSETS	<u>\$ 20,568,778</u>	<u>\$ 20,872,275</u>	<u>\$ 21,471,933</u>
LIABILITIES AND STOCKHOLDERS' EQUITY			
CURRENT LIABILITIES			
Accounts Payable	\$ 2,619,193	\$ 1,958,673	\$ 1,899,855
Accrued Payroll and Taxes & Expenses	3,075,995	3,356,336	3,512,914
Other Current Liabilities	6,914,990	6,831,414	7,003,528
Current Portion of Long-Term Debt	634,544	771,207	902,008
Billings in Excess of Costs and Estimated Earnings on Contracts-in-Process	551,453	866,453	760,482
Total Current Liabilities	<u>13,796,175</u>	<u>13,784,083</u>	<u>14,078,787</u>
LONG-TERM DEBT	654,431	1,288,785	2,097,050
STOCKHOLDERS' EQUITY			
Common Stock, No Par Value	1,000	1,000	1,000
Retained Earnings	6,117,172	5,798,407	5,295,096
Total Stockholders' Equity	<u>6,118,172</u>	<u>5,799,407</u>	<u>5,296,096</u>
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	<u>\$ 20,568,778</u>	<u>\$ 20,872,275</u>	<u>\$ 21,471,933</u>
STATEMENT OF REVENUES			
TOTAL CONTRACT REVENUES	<u>\$ 60,894,945</u>	<u>\$ 60,273,764</u>	<u>\$58,786,299</u>

See accountants' report.

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bond Number: 80023-TRAV-074

Bid Bond**CONTRACTOR:***(Name, legal status and address)*

Ruston Paving Company, Inc.
 204 S. Regional Road
 Greensboro, NC 27409

SURETY:*(Name, legal status and principal place of business)*

Travelers Casualty and Surety Company of America
 One Tower Square
 Hartford, CT 06183-6014
 State of Inc: Connecticut

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

OWNER:*(Name, legal status and address)*

Guilford County Facilities Department
 301 W. Market Street, Suite 400
 Greensboro, NC 27401

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

BOND AMOUNT: Five Percent of Amount Bid (5% of Amount Bid)**PROJECT:***(Name, location or address, and Project number, if any)*

Hagan-Stone Park Paving Repair Phase 2

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 17th day of April, 2018

*(Witness)**(Witness)* Kristin S. Bender

Ruston Paving Company, Inc.

*(Principal)**(Seal)**(Title)**(Surety)*

Travelers Casualty and Surety Company of America

*(Seal)**(Title)*

Jessica Iannotta, Attorney-In-Fact

Hagan-Stone Park
 5920 Hagan-Stone Park Road
Hagan-Stone Park Paving Repair Phase 2

SECTION 00486 – CONSENT OF SURETY

The Travelers Casualty and Surety Company of America

One Tower Square, Hartford, CT 06183-6014

(Name and address of Surety)

a corporation existing under the Laws of the State of

Connecticut

and authorized to do business under the Laws of the State of North Carolina, hereby certifies that application has been made to us by

Ruston Paving Company, Inc.

204 S. Regional Road, Greensboro, NC 27409

(Name and address of Bidder)

and satisfactory arrangements have been completed by which we have and do now agree to furnish a Performance Bond equal to 100% of the Contract to ensure the faithful performance on the part of the Bidder of the terms and conditions of the contract, and a labor and materials bond to ensure the payment of all persons furnishing labor and materials in accordance with the contract.

Title of Work: **Hagan-Stone Park Paving Repair Phase 2**

Location of Project: 5920 Hagan-Stone Park Road

This proposition is made with the understanding that any change made in the specifications or agreements without the consent of the bondsmen shall in no way vitiate the bond.

WITNESS:

Kristin S. Bender
 Kristin S. Bender

SURETY COMPANY

Travelers Casualty and Surety Company of America

Title: Jessica Iannotta, Attorney-in-Fact

Attorney-In Fact

By: [Signature]

Date: 4/17/2018

(Affix corporate seal)

END OF DOCUMENT 00486

CORPORATE ACKNOWLEDGMENT

STATE OF North CarolinaCOUNTY OF Guilford

On this 18th day of April, 2018 before me
personally came

Mike D. Ruston to me known,

who, being by me duly sworn, did depose and say that he/she resides in

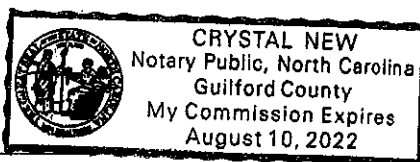
Greensboro, North Carolina that he/she is the

Project Manager of Ruston Paving Company, Inc.

that corporation described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and he/she signed his/her name thereto by like order.

(SEAL)

Crystal New



State of NJ }
County of Morris } ss:

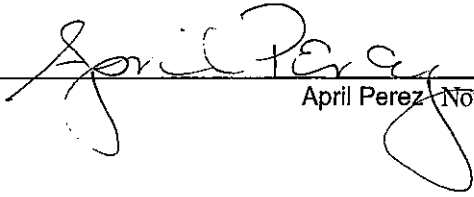
On April 17, 2018 , before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared

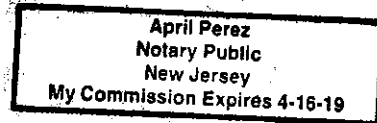
Jessica Iannotta

known to me to be Attorney-in-Fact of Travelers Casualty and Surety Company of America the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument in behalf of the said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.

My Commission Expires 4/16/2019 _____


April Perez Notary Public



TRAVELERS
Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint Jessica Iannotta of Morristown New Jersey, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **3rd** day of **February**, 2017.



State of Connecticut

City of Hartford ss.

By: Robert L. Raney

Robert L. Raney, Senior Vice President

On this the **3rd** day of **February**, 2017, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2021


Marie C. Tetreault
 Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 17th day of April, 2018


Kevin E. Hughes
 Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.

Marsh

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2017

CAPITAL STOCK \$ 6,480,000

ASSETS		LIABILITIES & SURPLUS	
CASH AND INVESTED CASH	\$ 137,626,346	UNEARNED PREMIUMS	\$ 920,416,346
BONDS	3,372,829,398	LOSSES	820,933,807
STOCKS	326,030,613	LOSS ADJUSTMENT EXPENSES	181,114,296
INVESTMENT INCOME DUE AND ACCRUED	39,230,403	COMMISSIONS	42,188,100
OTHER INVESTED ASSETS	2,641,903	TAXES, LICENSES AND FEES	13,242,950
PREMIUM BALANCES	235,708,836	OTHER EXPENSES	42,889,178
NET DEFERRED TAX ASSET	48,322,453	CURRENT FEDERAL AND FOREIGN INCOME TAXES	1,313,124
REINSURANCE RECOVERABLE	23,908,019	REMITTANCES AND ITEMS NOT ALLOCATED	82,545,307
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	20,555,872	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	35,924,038
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	21,488,218	RETROACTIVE REINSURANCE RESERVE ASSUMED	793,039
ASSUMED REINSURANCE RECEIVABLE AND PAYABLE	626,835	POLICYHOLDER DIVIDENDS	9,857,423
OTHER ASSETS	5,795,705	PROVISION FOR REINSURANCE	5,066,341
		ADVANCE PREMIUM	1,256,758
		ESCHEAT LIABILITY	837,143
		PAYABLE FOR SECURITIES LENDING	20,555,872
		CEDED REINSURANCE NET PREMIUMS PAYABLE	36,704,062
		OTHER ACCRUED EXPENSES AND LIABILITIES	686,489
		TOTAL LIABILITIES	\$ 2,216,124,273
		CAPITAL STOCK	\$ 6,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,876,352,567
		TOTAL SURPLUS TO POLICYHOLDERS	\$ 2,016,636,327
TOTAL ASSETS	\$ 4,232,760,599	TOTAL LIABILITIES & SURPLUS	\$ 4,232,760,599

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) SS.
CITY OF HARTFORD)

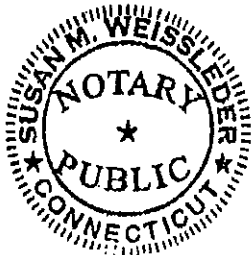
MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA,
AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID
COMPANY AS OF THE 31ST DAY OF DECEMBER, 2017.

Michael J. Doody
SECOND VICE PRESIDENT

Susan M. Weissleder
NOTARY PUBLIC

SUSAN M. WEISSLEDER
Notary Public
My Commission Expires November 30, 2022

SUBSCRIBED AND SWORN TO BEFORE ME THIS
16TH DAY OF MARCH, 2018



STATE OF NORTH CAROLINA

AFFIDAVIT

COUNTY OF GUILFORD

I, Mike Ruston (the individual attesting below), being duly authorized by and on behalf of
Ruston Paving Co., Inc. (the entity bidding on project hereinafter "Employer") after first being duly
 sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, 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).
3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. Mark "Yes" or "No":
 - a. YES ☒; or,
 - b. NO ☐
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This 18 day of April, 2018.

Mike Ruston
 Signature of Affiant
 Print or Type Name: Mike Ruston

State of North Carolina County of Guilford

Signed and sworn to (or affirmed) before me, this the 18th
 day of April, 2018.

My Commission Expires:

8-10-2022 Crystal New
 Notary Public

(Affix Official/Notarial Seal)

