Aiken County

Aiken County Engineering
Byrnes Street, CNW Road, and Thomas Lane
Roadway Improvements

Aiken, SC

Prepared by: Southern Partners Inc.
1233 Augusta West Parkway
Augusta, GA 30909
(706) 855-6000

February 15, 2016

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Byrnes Street, CNW Road, and Thomas Lane Roadway Improvements

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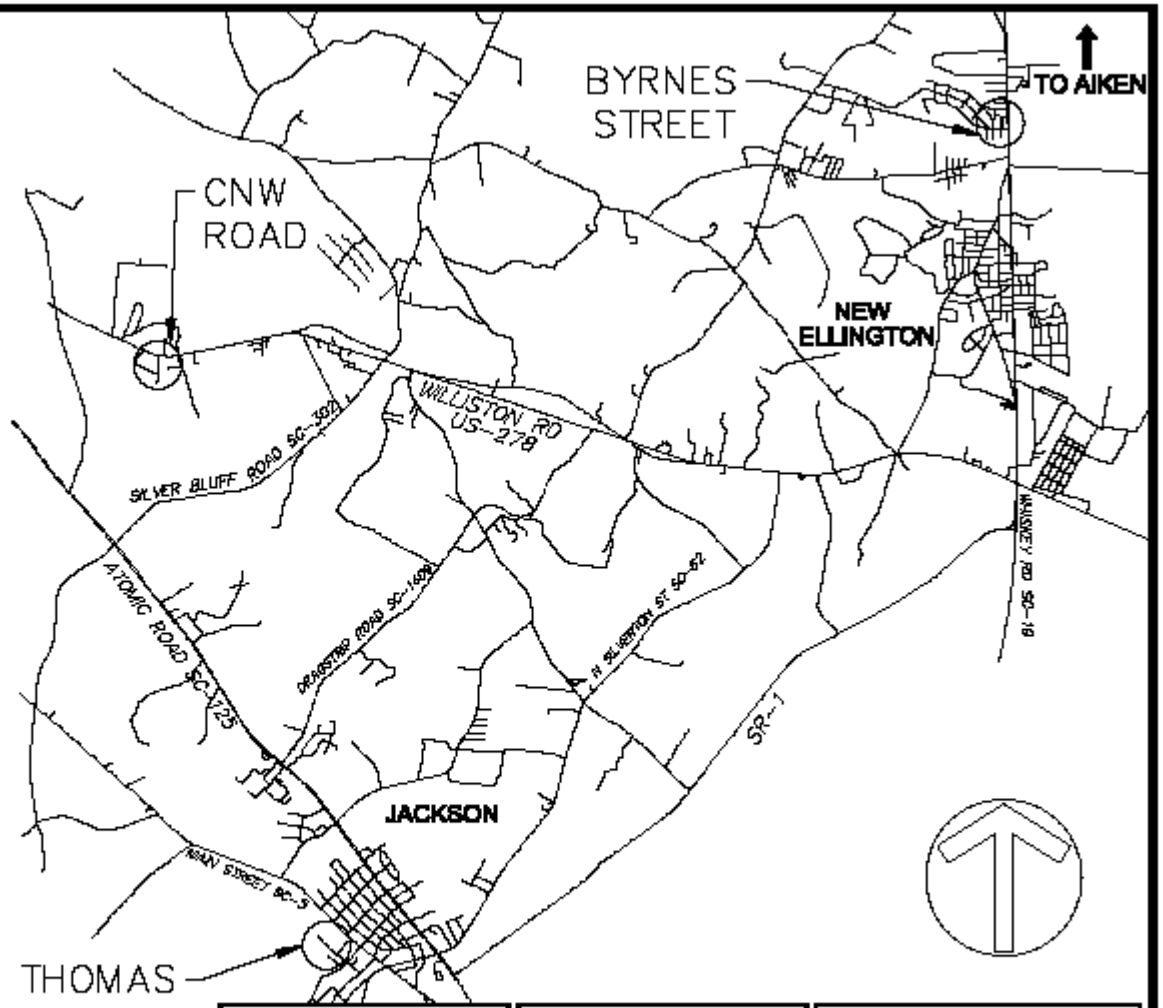


SOUTHERN PARTNERS, INC.
1235 AUGUSTA WEST PARKWAY
AUGUSTA, GEORGIA 60909
engineering@southernpartners.net

PROPOSED DRIVEWAY ENCROACHMENT

AIKEN COUNTY DEPT. OF ENGINEERING
1930 UNIVERSITY PKWY AIKEN, SC 29801
(803) 642-1035 ATT: JOE BERRY, PE

LOCATION MAP

RESIDENTIAL SUBDIVISION LOCATED WITHIN AIKEN COUNTY, SOUTH CAROLINA

1

S.P. No.	20092
SCALE :	1"=800'
DATE :	07-30-15
DESIGN: KDW	REVIEW: PRB

AREA TO RESURFACE

DRIVEWAY TO BE PAVED OR REPAVED

0' 100' 200' 300'

GRAPHIC SCALE: 1" = 100'

S.P. No.	20092
SCALE :	1" = 100'
DATE :	07-30-16
DESIGN: MDW	REVIEW: PRB

SOUTHERN PARTNERS, INC.
1235 AUGUSTA WEST PARKWAY
AUGUSTA, GEORGIA 30909
(706) 855-6000
engineering@southernpartners.net

PROPOSED DRIVEWAY ENCROACHMENT

AIKEN COUNTY DEPT. OF ENGINEERING
1930 UNIVERSITY PKWY AIKEN, SC 29801
(803) 642-1035 ATT: JOE BERRY, PE

BYRNES STREET SITE MAP

RESIDENTIAL SUBDIVISION LOCATED WITHIN AIKEN COUNTY, SOUTH CAROLINA

2

AREA TO RESURFACE

DRIVEWAY TO BE PAVED OR REPAVED

0' 200' 400' 600'

GRAPHIC SCALE: 1" = 200'

S.P. No.	26862
SCALE :	1" = 200'
DATE :	08-03-16
DESIGN: MDW	REVIEW: PRG

SOUTHERN PARTNERS, INC.
1235 AUGUSTA WEST PARKWAY
AUGUSTA, GEORGIA 30909
(706) 855-6000
engineering@southernpartners.net

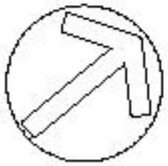
PROPOSED DRIVEWAY ENCROACHMENT

AIKEN COUNTY DEPT. OF ENGINEERING
828 RICHLAND AVENUE, WEST
(803) 642-1535 ATT: JOE BERRY, PE

CNW ROAD SITE MAP

RESIDENTIAL SUBDIVISION LOCATED WITHIN AIKEN COUNTY, SOUTH CAROLINA

3



AREA TO RESURFACE

DRIVEWAY TO BE PAVED OR REPAVED

0' 150' 300' 450'

GRAPHIC SCALE: 1" = 150'

SOUTHERN PARTNERS, INC.
1235 AUGUSTA WEST PARKWAY
AUGUSTA, GEORGIA 30909
(706) 855-6200
engineering@southernpartners.net

PROPOSED DRIVEWAY ENCROACHMENT

AIKEN COUNTY DEPT. OF ENGINEERING
828 RICHLAND AVENUE, WEST
(803) 642-1035 ATT: JOE BERRY, PE

THOMAS LANE SITE MAP

RESIDENTIAL SUBDIVISION LOCATED WITHIN AIKEN COUNTY, SOUTH CAROLINA

4

S.P. No.	26002
SCALE :	1" = 150'
DATE :	05-04-16
DESIGN: WDM	REVIEW: PRC

Aiken County Government

Byrnes Street, CNW Road, and Thomas Lane Roadway Improvements

Invitation to Bid

Project Description: Aiken County Government is requesting Sealed Bids to pave approximately 0.50 miles of 3 existing roads within Aiken County as shown on the attached location maps. This work shall consist of clipping grass, grading the existing dirt roadway, placing sand clay base applying tack coat, placing 165 lbs/sy SC Type C asphalt on the existing roadway, placing 165 lbs/sy asphalt on the existing drives to the right-of-way lines, and installing sotrm sewer as shown on the plans. The Bids must be submitted as stated on the attached Aiken County Sealed Bid Document.
Any questions concerning the bid should be directed to procurement@aikencountysc.gov.

Plans, Specifications, and Contract Documents: Plans, Specifications, and Contract Documents may be obtained from **Southern Partners, Inc. (Attn: Philip Green), 1233 Augusta West Pkwy, 706-855-6000, Mon-Thurs 7am-5pm.** There will be a non-refundable $150.00 charge for the Bid Documents.

Special Conditions

Conditions of Work: The Contractor must have informed himself fully of the conditions relating to the construction of this project and the employment of labor thereon, to have inspected the site, and to have read and become familiar with all the bid documents, contract documents, and plans/sketches. Failure or omission to do so will not relieve a successful bidder of his obligation to furnish all material, equipment, and labor necessary to carry out the provisions of his contract. Insofar as possible, the Contractor in carrying out his work must employ such methods and/or means as will not cause any interruption of or interference with the work of other contractors.

Restrictions: Contractor will need to work within the easements and right-of-way. Coordination shall be through the County Engineer's Office.

Safety Devices: Contractor shall provide all needed barricades and signs for safety and remove trash and debris from the work area daily.

Damage to Property: Contractor shall be responsible for and immediately take action to repair or replace any damage adjacent to existing owner property for any reason.

Utilities: Any needed utilities shall be at the expense of the Contractor.

References: References shall be provided upon request to confirm that the successful bidder is capable of performing and completing this project in a timely manner under specified conditions.

Warranty Period: The warranty period for this project is ***one (1)*** year on labor and materials against defects and workmanship. This warranty period shall commence upon owner's final approval of the entire work.

Licenses & Permits: The Contractor is to obtain any licenses or permits required to perform this work at no additional expense to the Owner.

Insurance: Proof of Liability Insurance and Workmen's Compensation Insurance must be

provided prior to commencing work.

Sketches: Sketches are provided for the purpose of bidding and not necessarily for detailed construction. All materials to be used are to be approved by the County Engineer prior to installation. In the case of an inconsistency between the sketches and specifications or within either document, the better quality or greater quantity of work shall be provided in accordance with the interpretation of the County Engineer.

Time of Completion: The time of completion 360 (***three hundred and sixty***) calendar days, and availability of all items must be confirmed prior to commencing work. Liquidated damages are **five hundred ($500.00) dollars** per calendar day. Written requests for additional time caused by unforeseen delays will be considered only if submitted in writing within ten (10) calendar days of event causing the delay. The work must commence on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within the consecutive days thereafter, excluding major holidays.

Waiver of Lien: At the completion of the project, a Waiver of Lien (Form provided by the County Engineer) shall be submitted to the County Engineer with the final Pay Request.

Security for Faithful Performance: A Performance Bond of 100% of Bid and a Payment Bond for 100% of Bid shall be required. The Owner shall retain and hold ten (10) per cent from each pay request until all work has been completed and approved by the County Engineer and a Waiver of Lien submitted stating that all vendors have been paid for materials, labor, and supplies. See Bid Security and Bonds in the Instructions to Bidders Section.

ENGINEERS
Southern Partners, Inc.
1233 Augusta West Pkwy
Augusta, GA 30909
Telephone: (706) 855-6000
Facsimile: (706) 869-9847

OWNER
Aiken County Government
1930 University Pkwy
Aiken, SC 29801
Telephone: (803) 642-1535
Facsimile: (803) 642-1538

Instructions to Bidders

1. **Intention:** It is intended that the Instructions to Bidders, Special Conditions, General Conditions, Detail Construction Specifications and Drawings shall cover the complete work to which they relate.

2. **Definitions:** Where the following words or pronouns used in their stead occur herein, they shall have the following meaning:

   "Owner" shall mean AIKEN COUNTY, SOUTH CAROLINA, party of first part to the following agreement, or its authorized and legal representatives.

   "Engineer" shall mean THE COUNTY ENGINEER FOR AIKEN COUNTY, S.C.

   "Contractor" shall mean the party of the second part to the following agreement, or the legal authorized representatives of such party.

3. **Scope of Work:** The work to be done consists of furnishing all materials and equipment and performing all labor necessary for completion of the work as set forth in the Bid, as shown on the Drawings, and as specified.

4. **Materials and Work by Owner:** The Owner will furnish and perform no labor for construction of the work under this contract except what is noted in the Special Conditions under "Work By County Forces."

5. **Contractor's License and Taxes:** Bidders must satisfy the requirements of all applicable South Carolina statutes, regulations and ordinances pertaining to bidders, contractors, licenses, permits, fees and taxes, including but not limited to Sections 40-11-10, et seg, Code of Laws of South Carolina, 1976, as amended. ***The General Contractor's License number must be shown in the space provided on the Bid Invitation Cover and in the Bid.***

6. **Site Examination:** The Bidder is expected and directed to examine the location of the work and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground; the soil conditions; the character, quality and quantity of the materials to be encountered; the character of equipment and facilities needed preliminary to and during the prosecution of the work; the general and local conditions; and all other matters which can in any way affect the work to be done.

7. **Sub-Surface Conditions:** A sub-surface investigation has not been made on any portion of the work, and the Owner and Engineer make no representation or express any opinion on such conditions. Excavation for the project is unclassified for rock. The contractor shall include in his bid all cost of excavation and removal and replacement of unsuitable materials. The contractor shall make his own analysis of the materials to be encountered, and include prices for removal and replacement of these materials in his unit prices for construction unless allowances for removal and replacement are provided in the Bid. It is expected that

quantities may be significantly less or greater than shown in the Bid since Bid quantities are established without any knowledge of the underground conditions, and it would be unusual for the quantities to be close to those actually encountered. The prospective bidder must form his own opinion of the character of the sub-surface materials to be encountered in excavating for construction of the various facilities and completing the work, and include all costs and charges therefore in his bid.

8. **Bids:** All Bids must be made upon the Bid forms hereto annexed and shall be for materials and work shown on the Drawings and/or specified. Bid forms shall not be detached from the bound documents. Bid prices must be stated for each item for which a Bid is made. Documents are to be enclosed in a sealed envelope, addressed to:

AIKEN COUNTY GOVERNMENT
ATTN: PROCUREMENT DEPARTMENT
1930 UNIVERSITY PARKWAY, SUITE 3205
AIKEN, SOUTH CAROLINA 29801

If forwarded by mail or courier, the sealed envelope containing the Bid shall be enclosed in another envelope or courier container also addressed as specified.

(a) **Unit Price Items:** The itemized quantities given in the Bid for unit price work shall be considered by the Contractor as the quantities required to complete the work. When the actual quantities required in the construction of the work are greater than or less than the quantities shown in the items, the amount equal to the difference in quantities at the unit prices bid for amount shall be paid.

(b) **Lump Sum Prices:** Where itemized prices are not given in the Bid, the Contractor shall consider the lump sum prices bid for the work shown on the Drawings and/or specified to be sufficient for completion of his Contract.

(c) **Total Amount Bid:** The correct total amount bid is defined as the correct sum total of the amount bid for the items in the Bid. The correct amount bid for each unit price item is defined as the product of the quantity listed in the Bid for the item, multiplied by the unit price bid.

9. **Extra Work Items in the Bid:** The Bid may contain certain unit price items entitled "Extra Work, If Ordered by the Engineer". In each such item, the estimated quantity is based on the average amount of extra work encountered in a typical job. The stated quantities are not guaranteed, but are included in the Bid in order to determine, in advance of construction, the actual low Bidder. No work included in such items will be authorized for payment without advance authorization of the work by the Engineer.

10. **Bid Security and Bonds:** A Bid Bond shall be required in an amount equal to not less than five per cent (5%) of the amount of the bid to guarantee that the successful bidder will,

within ten (10) days from the date of the notice of awarded Contract, enter into a contract with the Owner, and execute to the Owner a Performance Bond and Payment Bond, the contract and bonds to be in the form set forth in this book. If, for any reason whatever, the Bidder withdraws from the competition after the bids have been opened, or refuses to execute the required contract and bonds, if his bid is accepted, the Owner may retain the amount of the certified check, or proceed against the bid bond. The surety on the Bid Bond and Performance and Payment Bonds shall be a surety company authorized to do business in the State where the project is located. Attorneys-in-fact certified, proper and effectively dated copy of their power of attorney. Performance and Payment Bonds shall be countersigned by an agent residing in the State, County, or City of the Owner, if required. Bonds and the surety thereon shall be subject to approval by the Attorney for the Owner.

11. **Bids Opened in Public:** Bidders are invited to be present at the opening of Bids, which will be in public.

12. **Right to Reject Bids:** The Owner reserves the right to reject any or all bids and to waive informalities. No bids will be received after the time set for opening Bids. Any Bidder may change or withdraw his bid, either personally or by telegraphic or written request, at any time prior to the scheduled closing time for receipt of bids, but no bid shall be changed or withdrawn by telegraph or mail received after the time set for opening Bids.

13. **Determination of Low Bid:** The contract will be awarded, if it is awarded, to the responsible and responsive Bidder or Bidders submitting the lowest bid. The Owner, in its sole discretion, will decide which is the lowest responsible and responsive Bidder. In determining a responsible Bidder, the following elements, among other things, may be considered: whether the Bidder involved (a) maintains a permanent place of business; (b) has adequate plant equipment to do the work properly and expeditiously; (c) has a suitable financial status to meet obligations incident to the work; and (d) has appropriate technical experience on projects of similar scope and types of work and experienced, qualified personnel. In determining a responsive Bidder, the following elements will be considered: (a) the completeness and regularity of the Bid Form; (b) Bid Form without excisions or special conditions, and, (c) a Bid Form having no alternative bids for any items unless requested in the technical specifications.

(a) The Bidder, if requested by the County Engineer, shall list prices of at least two manufacturers of each item of major equipment if listed on the Bid Form. Use lowest price for base bid. If the "make" of any item listed in the base bid column does not meet specifications, the next lowest priced "make" listed for that item which does meet specifications will be used in determining the lowest bid price. If all of the listed "makes" of the item fail to meet specifications, as determined above, the Bidder will be so notified and he may, within 48 hours of such notification, submit a make or makes of equipment which will meet the specification for the base price originally listed in the Bid. Otherwise, the Bid will be rejected on the grounds that it is non-responsive.

(b) The Owner has the right to apply any or all "Deductions or Additions", if any, listed in the Bid by the Engineer, for the purpose of making an award.

14. **Return of Bid Security:** Subject to the provisions of paragraph 10, the Owner will, within ten (10) days following the Bid opening date, return the certified check of all Bidders, except the certified checks posted by the three lowest Bidders; upon final award and execution of the Contract, the remaining certified checks will be promptly returned. Bid Bonds will not be returned unless requested.

15. **Interpretation of Drawings and Specifications:** If any person contemplating submitting a bid for the project is in doubt as to the true meaning of any part of the Drawings, Specifications, or other Contract Document, or as to the scope of any part of the work, he shall submit to the Engineer a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery in ample time for an interpretation to be issued before bid opening date. Interpretations of the documents will be made only by Addendum, and a copy of that Addendum will be mailed or delivered to each person receiving a set of the documents. The Owner and Engineer will not be responsible for other interpretations of the documents.

16. **Complete Work Required:** The Specifications, the Drawings and all supplemental documents are essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to be complementary and to describe and provide for the complete work. In case of omissions from the Specifications as to items of equipment and materials or quantities therefore, the Drawings shall govern. In case of discrepancy in the Drawings, figured dimensions shall govern. It shall be the responsibility of the Bidder to call to the attention of the Engineer those omissions having a magnitude, which would affect the strength, adequacy, function, completeness and cost of any part of the work in ample time for amendment by Addendum prior to the Bid opening date.

17. **Drawings:** The character and location of the work, together with the essential details, are shown upon the Drawings.

18. **Working Drawings:** Working drawings shall consist of those detail drawings which may be required for prosecution of the work, but which are not included in the Contract Drawings. Six copies of all necessary working drawings shall be submitted by the Contractor to the Engineer unless additional copies are included in the submittal. Working drawings shall include shop details of manufactured equipment, products to be used, and all other drawings as may be required by the Specifications, and as may be necessary for the successful completion of the work. Review and approval by the County Engineer must be obtained before work involving working drawings may be performed.

(a) **Check by Contractor:** The Contractor shall check all working drawings for accuracy of dimensions and details, and for conformance with Contract Drawings and Specifications before submitting working drawings to the Engineer for review. The

Contractor shall indicate that working drawings have been checked by affixing an appropriate stamp or notation on the face of the working drawings. Deviations from the Plans and Specifications shall be clearly and specifically called to the Engineer's attention in a written statement accompanying the drawings.

(b) **Responsibility for Accuracy:** Review by the Engineer of the Contractor's working drawings shall not relieve the Contractor of responsibility for accuracy of dimensions and details. The Contractor shall be responsible for agreement and conformity of working drawings with the Contract Drawings and Specifications.

(c) **Payment:** The contract price shall include the cost of furnishings all working drawings, and the Contractor shall be allowed no extra compensation for furnishing those drawings.

19. **Cooperation of Contractor:** The Contractor will be supplied with five (5) copies of the Drawings and Specifications. The Contractor shall have available on the work, at all times, one (1) copy of the Drawings and Specifications. He shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer and other contractors in every way possible.

20. **Construction Stakes:** Subsidiary lines and grades shall be laid out by the Contractor from the controlling lines and bench marks established by the Engineer, or from measurements shown. All lines and grades shall be subject to checking by the Engineer, but that checking shall in no way relieve the Contractor from responsibility for their labor and assistance as the Engineer may require in laying-out work, establishing bench marks, and checking and measuring the work.

21. **Authority and Duties of Inspector:** Inspectors shall be authorized to inspect all work done and all materials furnished, including preparation, fabrication, and manufacture of the materials to be used. The inspector shall not be authorized to alter or waive requirements of the Drawings and Specifications. He shall call the attention of the Contractor to failure of the work and/or materials to conform to the Drawings and Specifications. He may reject materials or suspend work until questions at issue can be referred to, and be decided by the Engineer. The presence of the inspector shall in no way lessen the responsibility of the Contractor.

22. **Inspection:** The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and materials used are in accordance with the requirements and intent of the Specifications and Drawings. No work shall be done or materials used without suitable supervision or inspection by the Engineer of his representative. Failure to reject defective work and materials shall neither, in any way, prevent later rejection when those defects are discovered, or obligate the Owner to any final acceptance.

23. **Rejection of Work and Materials:** All materials furnished and work done when not in accordance with the Specifications and Drawings will be rejected, shall be immediately removed, and other work shall be done and materials furnished in accordance therewith.

If the Contractor fails to remove the work and materials within forty-eight (48) hours after having been ordered to do so, then the Owner shall have the right and authority to stop the Contractor and his work at once until the Contractor removes the work and materials.

24. **Defective Materials and Work:** The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the Contract. Defective work shall be made good by the Contractor, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. Failure by the Engineer to condemn or reject improper materials and workmanship shall be considered neither as a waiver of defects, which may be discovered late, nor as preventing the Owner at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed against defects in workmanship and materials for a minimum period of one year from date of Owner acceptance.

25. **Corrections:** Should any portion of the Drawings and specifications be obscure or in dispute, they shall be referred to the Engineer, and he shall decide as to the true meaning and intent. He shall also have the right to correct errors and omissions at any time when those corrections are necessary for the proper fulfillment of the Drawings and Specifications.

26. **Disagreement:** Should any disagreement or difference arise as to the estimate, quantities, or classifications, or as the meaning of the Drawings and/or Specifications, on any point concerning the character, acceptability, and nature of the several kinds of work and materials and construction thereof, the decisions of the Engineer shall be final, conclusive, and binding upon all parties to the Contract.

27. **Weather:** During unseasonable weather, all work must stop when the Engineer so directs, and all work must be suitably protected.

28. **Land and Rights-of-Way:** The Owner will furnish all land and rights-of-way necessary for the carrying out of this contract and the completion of the work herein contemplated, and will use due diligence in acquiring said land and rights-of-way as speedily as possible. It is possible that all lands and rights-of-way may not be obtained as herein contemplated before construction begins, in which event the Contractor shall begin his work upon such land and rights-of-way as the Owner may have previously acquired. The Owner will provide no right-of-way over other property. The Contractor shall take every precaution to inconvenience as little as possible the owners or tenants of adjacent property. Public Highways shall not be obstructed. Expense shall be borne by the Contractor to repair or pay for any damage or injury to either private or public property during progress of the work.

29. **Competent Labor:** The Contractor shall employ only competent and skilled personnel on the work. The Contractor shall at all times have a Superintendent, satisfactory to the Engineer, capable of acting as the Contractor's agent of the work, and who shall receive instructions from the Engineer or his authorized representative. The Superintendent shall have full authority to execute the orders and directions of the Engineer without delay, and

to promptly supply these materials, tools, plant equipment, and labor as may be required. The Contractor shall, upon demand by the Engineer, immediately remove that Superintendent, Foreman, and Workmen whom the Engineer may consider to be incompetent or undesirable, or both.

30. **Laws, Regulations, and Permits:** The Contractor shall comply with all applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the work specified herein. Permits and licenses necessary for construction of the work shall be secured and paid for by the Contractor.

31. **Sales Tax:** Bidders shall include in the Bid an allowance for payment of State Sales Tax on all taxable materials specified to be furnished by the Contractor and incorporated into the work under this Contract.

32. **Sanitary Facilities:** Necessary sanitary facilities for the use of personnel on the work shall be erected and maintained by the Contractor in such manner and at such points as shall be approved by the Engineer. Facilities shall be maintained in sanitary conditions and in strict accordance with the applicable regulations. No unsanitary act shall be committed outside sanitary facilities.

33. **Storage Facilities:** Should the Contractor so desire, he may build storage facilities for housing tools, machinery and supplies, but those facilities will be permitted only at places approved by the Engineer, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before completion of the work, those facilities shall be removed at the expense of the Contractor.

34. **Water, Sewer, and Electric Power Supply:** The Contractor shall make his own arrangements for water, sewer, and electric power supply for his construction operations.

35. **Access Roads:** Streets, roads and drives used by the Contractor for access to and from the job site shall be protected from damage in excess of that caused by the normal traffic of vehicles used for, or in connection with, construction work. Project-related damages shall be repaired immediately, and the area shall be left in good condition at the end of the construction period.

36. **Order of Work:** The prosecution, order and sequence of the work shall be as provided herein, or as approved by the Engineer, but that approval shall in no way affect the responsibility of the Contractor.

37. **Protective Works:** The Contractor shall furnish and install all necessary temporary signage for the protection of the work, including lights at night, barricades, and warning signs.

38. **Safety Regulations:** The performance of work under this Contract shall comply with safety regulations prescribed by the Owner, those of the National Occupational Safety and Health Act of 2011, and the requirements of the State where project is located. Each Bidder shall examine and satisfy himself as to the character and extent of these regulations.

39. **Allowable Time for Completion:** The time allowed for completion of all work as stated in the Bid and Construction Agreement shall be as specified in consecutive calendar days after notifications by written order from the Engineer to proceed with the work. Such notifications will be issued upon completion of execution of the contract documents.

40. **Liquidated Damages:** The Contractor shall pay to the Owner as liquidated damages the sum of five hundred dollars ($500.00) for each calendar day that the Contractor shall be in default of completing the work within the time limit stated within the Bid.

END INSTRUCTION TO BIDDER

GENERAL CONDITIONS

1. **Contract Security**: The Contractor must furnish two Security Bonds (forms attached) each in an amount at least equal to one hundred percent (100%) of the contract price, one as a security for the faithful performance of this Contract and one for the payment of all persons performing labor and furnishing materials in connection with this Contract. The Surety on each Bond must be a surety company satisfactory to the Owner, duly authorized to do business in the State of South Carolina. The Bonds must be countersigned by an agent who is a resident of the State, County or City of the Owner, if required. The person executing the Bond on behalf of the surety must file with the Bond a general power of attorney unlimited as to amount and type Bond covered by such power of attorney, and certified to by an official of said surety.

2. **Contractor's and Subcontractor's Insurance**: The Contractor must not commence work under this Contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. All certification of insurance and policies must contain the following clause: "The insurance covered by this Certificate will not be canceled or materially altered unless at least thirty (30) days prior written notice has been given to the Owner".

(a) **Compensation Insurance**: The Contractor must procure and must maintain during the life of this Contract, including the entire period of the Contractor's Warranty, Workmen's Compensation Insurance for all of the employees engaged, or to be engaged, in work on the project under this Contract; and in any case any such work is sublet, the Contractor must require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees engaged, or to be engaged, in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workmen's Compensation Insurance Statute, the Contractor must provide Workmen's Compensation coverage for and hold harmless the Owner for the protection of such of his employees not otherwise protected.

(b) **Public Liability, Property Damage, and Automobile Liability Insurance:** The Contractor must take out, and maintain during the life of this Contract, including the entire period of the Contractor's Warranty, Comprehensive General Liability Insurance, including products and completed operations, XC and U coverage; the ISO Broadform General Liability endorsement to its equivalent thereof; Automobile Liability Insurance; and such other insurance as the Owner may direct and must protect him and any subcontractor performing work covered by this contract from claims for damage for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by them. The Owner must be listed as an additional Insured on all such policies and certificates of insurance. The amount of such insurance must be as follows:

(1) **Bodily Injury Insurance** in an amount of not less than $500,000 for bodily injury, including accidental death to any one person, and subject to the same limit for each person, in an amount not less than $1,000,000 on account of one accident.

(2) **Property Damage Insurance** in an amount not less than $500,000 for any one damage claim, and in an aggregate amount up to $1,000,000 during a period of twelve (12) months.

(3) **Automobile Liability Insurance:**

a. For bodily injury, including accidental death to any one person in an amount not less than $500,000 and subject to the same limit for each person, in an amount not less than $1,000,000 on account of one accident.

b. For property damage in an amount not less than $500,000 for any one damage claim and in an aggregate amount up to $1,000,000 during a period of twelve (12) months.

c. **Owner's Protective Liability Insurance**: The Contractor must provide a policy issued in the name of the Owner for liability and property damage in the same amounts as required for the Contractor.

d. **Umbrella Policy**: Umbrella coverage must be obtained if required, to provide for an increase in basic policy coverage to an amount not less than $1,000,000.

e. **Builder's Risk or Installation Floater Insurance (Fire and Extended Coverage)**: The Contractor must insure all work against loss or damage by fire and against loss or damage covered by the standard extended coverage insurance, and the amount of the insurance at all times must be at least equal to the amount paid on account of work and materials. The policies must be in the names of the Owner and the Contractor as their interests may appear.

f. **Proof of Coverage of Insurance**: The Contractor must furnish the Owner with certificates showing satisfactory proof of carriage of the insurance required before commencing work on this contract. Certificates of insurance for subcontractors are not required to be submitted to the Owner.

g. **Scope of Insurance**: The insurance required under sub-contractors (b), (c) and (d) hereof must provide protection for the Contractor and his subcontractors respectively, as well as the Owner, against damage claims which may arise in any way from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by him.

h. Nothing contained in this contract or any document forming a part hereof or attached thereto, shall be construed to, change or increase the limitations on the liability of the Owner set forth in the South Carolina Tort Claim Act.

3. **Accident Prevention**: Precaution must be exercised at all times by the Contractor for the protection of all persons, including employees and property. Hazardous conditions must be guarded against or eliminated.

The Contractor shall be responsible for all injuries or damages to persons or property, and shall defend, indemnify, save and hold harmless the Owner, its officers, employees and agents, from all damages, attorneys' fees and costs by reason of injury to person or property resulting from performance of the work or in guarding the same, or from any improper materials, implements, or appliances used in its construction, or on account of any act or omission of the Contractor and sub-contractor, their agents or employees. The whole or as much of the monies due under, and by virtue, of this Contract as may be considered necessary by the Owner shall or may be retained by the Owner until all suits or claims for damages shall have been settled, and evidence to that effect furnished to the satisfaction of the Owner.

(a) In emergencies affecting the safety of persons, the work or property at the site or adjacent thereto, the Contractor without special instruction or authorization from the Engineer or Owner, must act to prevent threatened damage, injury or loss. The Contractor must make prompt written notice to the Engineer and Owner of any changes in the work or deviations from the Contract Documents caused thereby.

(b) Safety and health facilities and procedures must be in accordance with the requirements of the National Occupation Safety and Health Act of 1970, (OSHA), and subsequent amendments. The Contractor must comply with the Department of Labor's Safety and Health Regulations for construction promulgated under the National Occupational Safety and Health Act of 1970 (P.L. 91-596), and under Section 107 of the Contract Work Hours and Safety Standard Act (P.L. 91-54), and subsequent amendments. The Contractor must comply with OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a master hazardous chemical list (including locations), expanding MSDS's, ensuring that containers are labeled, and providing employee training.

4. **Laws of the Place**: The Contractor must conduct the construction as defined in the Bid in accordance with the applicable national, state, county, and municipal laws, ordinances and regulations. The Contractor must keep himself fully informed of those laws, ordinances, and regulations which would, in any way, affect those engaged and employed in the project, the materials used in the project, and the conduct of the project; and informed of all orders and decrees of bodies and tribunals having jurisdiction and authority over the project. If discrepancies, or inconsistencies, or both, should be discovered in the Construction Agreement, Drawings, or Construction Specifications, or combination thereof, in relations to laws, ordinances, regulations, orders and decrees, the Contractor must forthwith report the fact, in writing, to the Owner. The Contractor must protect and indemnify the Owner, his officers, agents and employees, against claims and all liabilities arising from, or based on, the violation of those laws, ordinances, regulations, orders, and decrees, whether by the Contractor or by his employees or agents.

5. **Payment of Contractor:**

(a) Not later than 30 days after pay requests are promptly and properly submitted, the Owner will make a partial payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding performance of this

Contract. The Owner will retain ten percent (10%) of the amount of each estimate until such time that all work has been completed and approved by the County Engineer and a Waiver of Lien submitted stating that all vendors have been paid for materials, labor and supplies.

(b) In preparing estimates, the material not subject to deterioration delivered on the site and preparatory work done will be taken into consideration for inclusion on the partial payment request. The amount of eligible on-site material included in the partial payment shall be reduced by ten percent (10%) of the amount of the material cost as shown on the submitted material invoice.

(c) All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision must not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of the terms of the Contract.

(d) **Owner's Right to Withhold Certain Amounts and Make Application Thereof**: The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies including commissary, used in the furtherance of the performance of this contract. The Contractor must furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the Contractor fails so to do, then the Owner may, after having served written notice on the said Contractor, either pay unpaid bills, of which the Owner has written notice, directly, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such claims until satisfactory evidence is furnished that all liabilities have been fully discharged, whereupon payment to the Contractor shall be resumed, in accordance with the terms of this Contract; but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor or his Surety. In paying any unpaid bills of the Contractor, the Owner shall be deemed the agent of the Contractor, and the Owner shall not be liable to the Contractor for any such payments made in good faith.

6. **Payment by Contractor**: The Contractor shall pay

(a) For all transportation and utility services no later than 20 days following that month in which services are rendered;

(b) For all materials, tools, and other expandable equipment not less than ninety percent (90%) of the cost thereof, no later than 20 days following that month in which such materials, tools, and equipment are delivered at the site of the project; and

(c) To each of his subcontractors, no later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his subcontractors to the extent of such subcontractors' interest therein.

7. Subcontracting:

(a) The Contractor may utilize the services of specialty sub-contractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

(b) The Contractor must not subcontract the complete work, or any major portion thereof, and must not award any work to any subcontractor without prior written approval by the Owner, which approval will not be given until the Contractor submits to the Owner, a written statement concerning the proposed award to the subcontractor, which statement must contain such information as the Owner may require.

(c) The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

(d) The Contractor must cause appropriate provisions to be inserted in all subcontracts relative to the work to bind sub-contractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

(e) The Contractor must indemnify and save the Owner and the Owner's agents harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools and all supplied, incurred in the furtherance of the performance of the work.

(f) Nothing contained in this Contract shall create any contractual relationship between any subcontractor and the Owner.

8. Assignments: The Contractor must not assign the whole or any part of this Contract, or any monies due, or to become due hereunder without written consent by the Owner. In case the Contractor assigns all, or any part of any monies, or to become due under this Contract, the instrument of assignment must contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due, or to become due, to the Contractor shall be subject to prior liens of all persons, firms, and corporations for service rendered or materials supplied for the performance of the work called for in this Contract.

9. Time for Completion and Liquidated Damages:

(a) It is hereby understood, and mutually agreed, by and between the Contractor and the Owner, that the date of beginning, rate of progress, and the time for completion of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on a date to be specified in the "Notice to Proceed" and completed within the time period specified herein above. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will

assure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the work described herein is a reasonable time for the completion of same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

(b) IF THE SAID CONTRACTOR SHALL NEGLECT, FAIL OR REFUSE TO COMPLETE THE WORK WITHIN THE TIME HEREIN SPECIFIED, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner the amount specified in the Contract not as a penalty, but as liquidated damages for such breach of Contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing work. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages which the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain.

(c) It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where an additional time is allowed under the contract for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract.

(d) The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

i. To any preference, priority, or allocation order duly issued by the government.

ii. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather.

iii. To any delays of subcontractors occasioned by any of the causes specified in subsections (a) and (b) of this article.

Provided that within seventy-two (72) hours from the beginning of such delay, the Contractor must notify the Owner in writing of the causes of the delay. The Owner, shall then ascertain the facts and the extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

10. <u>Construction Schedule and Periodic Estimates:</u>

(a) Immediately after execution and delivery of the Contract, and before the first partial payment is made, the Contractor must deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing

i. The proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and

ii. The anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule.

(b) The Contractor must also furnish on forms acceptable to the Owner:

i. A detailed estimate giving a complete breakdown of the Contract price and

ii. Periodic itemized estimates of work done for the purpose of making partial payments thereon.

The costs employed in making up any of these schedules will be used for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

11. **Responsibility of Contractor**: If, through acts of neglect on the part of the Contractor, any other Contractor, or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration if such other contractor or subcontractor will so settle. If such other contractor or subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who must defend and indemnify and save and hold harmless the Owner against any such claim.

12. **Extras**: Without invalidating the Contract, the Owner may order extra work or make changes by altering, adding to or deducting from the work, the Contract sum being adjusted accordingly, and the consent of the Surety being first obtained where necessary or desirable. All work of the kind bid upon shall be paid for at the price stipulated in the Bid, and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the Owner or the Engineer, acting officially for the Owner, and the price is stated in such order.

13. **Changes in Work**:

(a) Should the Contractor encounter, or the Owner discover, during the progress of the work, subsurface or latent conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Drawings and Specifications, the attention of the Owner shall be called immediately to such conditions before they are disturbed. The Owner must thereupon promptly investigate the conditions, and if it finds that they do so materially differ, the Contract shall be modified, with the written approval by the Owner, to provide for any increase or decrease of costs or difference in time resulting from such conditions. No changes in work shall be made without prior written approval by the Owner.

(b) The Contractor must proceed with the performance of any changes in the work so ordered in the field by the Engineer and/or Owner unless the Contractor believes said change entitles him to a change in Contract price and/or time, in which event the Contractor must give the Engineer written notice thereof within seven days after receipt of the field order and must not execute the field change pending the execution of a change order unless the change is for accident prevention as cited herein.

(c) The Contractor must furnish to the Owner, when required, an itemized breakdown of the quantities and prices used in computing the value of any change that might be ordered. In figuring these changes, instructions for measurement of quantities set forth in the Specifications must be followed.

(d) Charges or credits for the work covered by the approved change shall be determined by the Owner using one or more or a combination of the following methods:

i. Unit bid prices stipulated in the Bid or as subsequently approved, which unit prices shall include allowances for overhead and profit.

ii. An agreed lump sum.

iii. The actual cost, by keeping a correct account including all vouchers, for:

1. Labor, including foremen;
2. Materials entering permanently into the work;
3. Ownership or rental cost of power tools and construction equipment actually used;
4. Power and consumable supplies for operation of power equipment actually used;
5. Prorate charges for insurance covering public liability, Workmen's Compensation, Old Age and Unemployment, and also Social Security.

To the costs in (c) above shall be added a negotiated fixed fee for overhead and profit, not to exceed fifteen percent (15%) of the above items, except that actual cost only will be allowed for Social Security and Unemployment Insurance. Among the items considered as overhead are costs for insurance other than above, bonds, superintendence, timekeeping, clerical work, watchman, use of small tools, general office expense and miscellaneous. The allowance for combined overhead and profit thus calculated shall be the only such allowance included in the total cost of the work performed by the Contractor or his subcontractor. If the work was performed by sub-contract, the Contractor may add a negotiated fixed fee for overhead and profit not to exceed five percent (5%) of the subcontract cost.

If the Owner determines that the Contractor, pursuant to his obligations under paragraph 6 and 7 of the Instruction to Bidders and Special Provisions, should have discovered the conditions prior to the awarding of the bid for the project, it may require the Contractor to complete the project for the contract price and the condition shall be deemed to be materially different as provided herein.

14. **Claims for Extra Cost**: No claim for extra work or cost shall be allowed, unless the same was done pursuant to a written order by the Engineer, as aforesaid, and the claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms of subsection 13(c) of these General Conditions, the Contractor must furnish satisfactory bills, payrolls and vouchers covering all items of cost and when requested by the Owner, give the Owner access to accounts relating thereto.

15. **Materials, Services and Facilities:**

(a) It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor must provide and pay for all materials, labor, tools, equipment, water, lights, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

(b) Materials and equipment must be stored in a manner to insure the preservation of their quality and fitness for the work.

(c) Any work necessary to be performed after regular working hours, on Sundays or legal holidays, shall be performed without additional expense to the Owner.

16. Patents:

(a) The contractor shall defend, indemnify, hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including attorney's fees cost and expense, for or on account of any patented or unpatented inventions, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

(b) If the Contractor uses any design, device or materials covered by letter, patents or copyrights, he must provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the Contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his sureties shall defend, indemnify and save and hold harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or material or any trademark or copy-right in the connection with work performed under this Contract, and shall indemnify the Owner for any attorneys' fees, cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

17. Inspection and Testing of Material: Unless otherwise specifically provided for in the Specifications, the inspection and testing of material and finished articles to be incorporated in the work at the site shall be made by bureaus, laboratories or agencies arranged for by the Contractor and as approved by the Engineer. The Contractor shall furnish all such extra quantities of materials and items as may be required for testing, and shall deliver same to the laboratory. The cost of furnishing and delivering samples to the laboratory shall be paid for by the Contractor.

Where the Detailed Specifications call for certified copies or mill or shop tests to establish conformance of certain materials with the Specifications, it shall be the responsibility of the Contractor to assure the delivery of such certifications to the Owner.

No materials or finished articles shall be incorporated into the work until such materials and finished articles have passed the required tests. The Contractor must promptly segregate and remove rejected material and finished articles from the work site.

The testing and approval of materials by the laboratory or laboratories approved by the Engineer shall not relieve the Contractor of any of his obligations to fulfill his Contract and

guarantee of workmanship and materials as called for in Paragraph 21 entitled "General Warranty for one year After Completion of Contract", herein. The Contractor may, at his option and at his expense, cause such other tests to be conducted as he may deem necessary to assure suitability, strength and durability of any material or finished articles.

18. Right of the Owner to Terminate Contract: In the event that any of the provisions of this Contract are violated by the Contractor or by any of his subcontractors, the Owner may serve written notice upon the Contractor and his Surety of his intention to terminate the Contract, such notices to contain the reasons of such intention to terminate the Contract; and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement of correction be made, the Contract shall, upon the expiration of said ten (10) days, terminate.

In the event of any such termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance thereof within five (5) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work, prosecute the same to completion by contract or by force account at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event, the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the work site and necessary therefore.

19. Notices and Service Thereof:

(a) Any notice to the Contractor from the Owner, relative to any part of this Contract, shall be in writing and considered delivered and the service thereof completed, when said notice is posted by certified mail, to the said Contractor at his last given address, or delivered in person to said Contractor or his authorized representative on the work, or is deposited in the regular United States mail in a sealed, postage prepaid envelope, and the receipt thereof is acknowledged by the Contractor.

(b) Unless otherwise specified in writing to the Contractor, all papers required to be delivered to the Owner shall be delivered to the County Engineer. Any notice to or demand upon the Owner shall be considered sufficiently given if it is delivered to the office of said County Engineer or deposited in the United States mail in a sealed postage prepaid envelope properly addressed to the County Engineer, or to such other address as the Owner may subsequently specify in writing to the Contractor for such purposes, and it is received by the County Engineer.

20. Quantities of Estimate: The estimated quantities of work to be done and materials to be furnished under this Contract shown in any of the documents, including the Bid, are given for use in comparing bids, and to indicate approximately the total amount of the contract. Except as herein otherwise specifically limited, the right is especially reserved by the Owner to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this Contract.

21. General Warranty After Completion of Contract: For a period of at least one year after completion of the Contract and final acceptance of the work by the Owner, the contractor warrants the fitness and soundness of all work done and materials and equipment put in place under the Contract. Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Owner, shall constitute an acceptance of work not done in accordance with the Contract Documents, or relieve the Contractor of liability for this warranty or for any other warranties or responsibility for faulty materials, equipment or workmanship. The Contractor must remedy any defects in the work and pay for damage resulting there from discovered with a period of one year from the date of final acceptance of work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness. This provision in no way affects the Contractor's responsibility to the Owner for latent defects.

22. Contractor's Obligations: The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper and complete all work required by the Contract within the time herein specified, in accordance with the provisions of this Contract and said Specifications, the Plans and Drawings of the work covered by this Contract, and any and all supplemental plans and drawings of the work, and in accordance with the directions of the Engineer as given from time to time during the progress of the work. The Contractor shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. He alone shall be responsible for the safety, efficiency and adequacy of his plan, appliance and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract Specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Engineer and the Owner.

23. Engineer's Authority: The Engineer shall give all orders and directions contemplated under this Contract and Specifications relative to the execution of the work. The Engineer shall determine the amount, quality, acceptability and fitness of several kinds of work and materials which are to be paid for under the Contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said Contract or Specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this Contract affected in any manner or to any extent by such question.

The Engineer shall decide the meaning and intent of any portion of the Specifications and or any Plans or Drawings where the same may be found obscure or be in dispute.

Any difference or conflicts, in regard to their work, which may arise between the Contractor and other contractors performing work for the Owner, shall be adjusted and determined by the Engineer.

The Engineer and Owner will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

24. **Owner's Prerogative**: The Owner shall have the right to enter the site for the purpose of doing work and/or having work done which is not covered by the Contract Documents. This provision shall not relieve the Contractor of his obligations cited in Item 22 herein, excepting work done by the agents or employees of the Owner. Prior to completion and acceptance of the work set forth in the Contract, the Owner with the concurrence of Engineer and Contractor, may use any completed or substantially completed portion of the work, by such use shall not constitute an acceptance of that portion.

25. **"Or Equal" Clause**: With the exception of major items of mechanical and electrical equipment, whenever a material or article required is specified or shown on the Drawings by using the name of the proprietary product or of a particular manufacturer or vendor, any material or article which will meet the design criteria and is equal in function and durability, as determined by the Engineer prior to the bid, will be considered acceptable.

26. **Prohibited Interests:** No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract, or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar function in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract, insurance contract, or any other contract pertaining to the project.

27. **Reports, Records and Data**: The Contractor and each of his subcontractors must submit to the Owner such schedules, payroll, reports, estimates, records and other data as the Owner may request, or as may be required herein, concerning the work performed or to be performed under this Contract.

28. **Acceptance of Work and Final Payment**: Before final acceptance of the work and payment to the Contractor of the percentage retained by the Owner, the following requirements must be complied with:

(a) **Final Inspection**: Upon written notice from the Contractor that his work is completed, the Engineer will make a final inspection of the work, and must notify the Contractor of all instances where his work fails to comply with the Contract Drawings and/or Specifications, as well as any defects he may discover. The Contractor must immediately make such alterations necessary to make the work comply with the Contract Drawings and Specifications to the satisfaction of the Engineer.

(b) **Cleaning Up**: Before the work is considered as complete, all rubbish and unused material due to or connected with the construction must be removed and the premises left in a condition satisfactory to the Owner. Streets, curbs, cross-walks, fences, and other public and private property or rights-of-way disturbed or damaged must be restored to their former condition. Final acceptance will be withheld until such work is finished.

(c) **Liens**: Final acceptance of the work will not be granted, and the retained percentage will not be due or payable until the Contractor has furnished the Owner proper and satisfactory evidence under oath that all claims for labor and material employed or used in the construction of the work under this contract have been settled, and that no legal claims will be filed against the Owner for such labor or materials.

(d) **Final Estimate**: Upon completion of all cleaning up, alterations and repairs required by the final inspection or operation test, the satisfactory completion of the operating test, and upon submitting proper and satisfactory evidence to the Owner that all claims have been settled, the Engineer will issue a certificate of final acceptance of the work. The Contractor shall then prepare his final estimate. After review of the final estimate by the Engineer, and approval by the Owner, the final payment shall then become due.

29. **Minimizing Silting and Bank Erosion During Construction**: During construction protective measures must be taken and maintained to minimize bank erosion, and the silting of creeks and rivers adjacent to work being performed during construction. This must be done as according to the Erosion Control Section of the Specifications and the Stormwater Pollution Plan.

30. **Restoration of Disturbed Areas**: All areas disturbed by or during construction must be restored to their existing or better condition. This provision is not to be interpreted to require replacement of trees and undergrowth in undeveloped sections of rights-of-way.

31. **Chemicals Used During Construction**: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactor or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal or residue must be in strict conformity with manufacturer's instructions.

32. **Acceptance of Final Estimate**: The acceptance by the Contractor of the final payment shall operate as a release to the Owner from all claims and liabilities to the Contractor for all work done or materials furnished, or for any act of the Owner or its agents affecting the work.

33. **Inspection by Agencies**: The representatives of all local, state and federal regulatory agencies legally authorized to have access shall have access to the work wherever it is, in preparation or progress, and the Contractor must provide proper facilities for such access and inspection.

34. **Litigation**: In the event of litigation in which the Owner is or becomes a party, the Contractor agrees and consents that the litigation shall be filed in or transferred to the Court of Common Pleas of Aiken County, South Carolina or the Aiken Division of the United States District Court for the District of South Carolina and that the laws of the State of South Carolina shall apply to and govern such litigation. The Contractor further agrees to cooperate with the Owner in obtaining the transfer of such litigation to those courts by promptly signing all documents necessary thereto.

35. **Unauthorized Aliens and Public Employment:**

(a) By signing its bid, offer, or proposal, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of South Carolina Code of Laws and agrees to provide to the Owner upon request any documentation required to establish either:

i. That Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or

ii. That Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14.

(b) Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both."

(c) Contractor agrees to include in any contract with its subcontractors language requiring its subcontractors

i. To comply with the applicable requirements of Title 8, Chapter 14, and

ii. To include in their contracts with their sub-subcontractors language requiring their sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

END GENERAL CONDITIONS

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Byrnes Street, CNW Street, and Thomas Lane C-Fund Paving

TO THE COUNTY AND COUNTY COUNCIL
OF AIKEN COUNTY, SOUTH CAROLINA

Submitted _____, 2016

The undersigned, as Bidder, hereby declares:

1. That the only person or persons interested in the bid as principal or principals is (or are) named herein and that no person other than mentioned herein has any interest in this Bid or in the Contract to be entered into.

2. That this bid is made without connection with any other person, company or parties making a bid.

3. That in all respects, this bid is made fairly and in good faith, without collusion or fraud.

The Bidder further declares:

4. That he has examined the site of the work and has informed himself fully in regard to all conditions pertaining to the place where the work is to be done.

5. That he has examined the Drawings and Specifications for the work and contractual documents relative thereto and has read all Special Provisions and General Conditions furnished prior to the opening of bids.

6. That he has satisfied himself relative to all work to be performed.

The Bidder proposes and agrees, if this Bid is accepted, to:

A. Contract with Aiken County, South Carolina, a body politic and corporate and a political subdivision of the state of South Carolina (hereinafter called The Owner), in the form of contract specified,

B. To furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the work in full and complete accordance with the shown, noted, described, and reasonably intended requirements of the Drawings, Specifications and Contract Documents to the full and entire satisfaction of The Owner, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents, for the following prices:

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Byrnes Street C-Fund Paving

PROPOSAL

Item No.	Description	Quantity	Unit	Unit Bid	Total
1	Mobilization, Traffic Control Devices & Signage	1	L.S.	_____	_____
2	Earthwork (fill)	1	L.S.	_____	_____
3	Demolition	1	L.S.	_____	_____
4	Moving Items Mailboxes, Street Signs, Etc. to R/W Line or Designated Area	1	L.S.	_____	_____
5	Clearing & Grubbing, Drainage, Easement & Construction Limits	0.6	ACRES	_____	_____
6	Install, Maintain, & Remove Construction Exit	1	EACH	_____	_____
7	Install and Maintain Silt Fence	1250	L.F.	_____	_____
8	Shape and mix Subgrade and Include compaction and core (max 2)	2050	Sq Yds	_____	_____
9	Prime Coat	1650	Sq Yds	_____	_____
10	6” Sand Clay Base Includes compaction and core (max 2)	2050	Sq Yds	_____	_____
11	1-1/2” Type C Asphalt Includes cores (max 2)	1680	Sq Yds	_____	_____
12	Pavement with SCDOT section	100	Sq Yds	_____	_____
13	Pave Driveways includes shape subgrade, 6” compacted sand-clay base, and pavement	4	EACH		
14	18” Raised Edge Curb	1200	L.F.	_____	_____

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Byrnes Street C-Fund Paving

Item No.	Description	Quantity	Unit	Unit Bid	Total
15	Cut and patch asphalt driveway	20	Sq Yds	_____	_____
16	Outlet Protection Rip Rap Placement Filter Fabric & Rip Rap	90	Sq Yds	_____	_____
17	Grassing, Fertilizer, and Mulch	0.3	ACRES	_____	_____
18	Remove & replace ex. Chain link fence in kind	250	L.F.	_____	_____
19	Sediment Tubes Installed and Maintained	2	EACH	_____	_____
20	Install Street signs	1	LUMP	_____	_____
21	Install Stop signs	1	LUMP	_____	_____
22	Install Stop bars	1	LUMP	_____	_____
23	Install pavement markers Raised Yellow Pavement B: Directional Markers (4" Square) @ 80' O.C. Maximum Spacing	8	EACH	_____	_____

Note: 1. Roadway to be compacted with 6 to 12 ton rollers Per SCDOT.
2. Rates will be confirmed by asphalt tickets from the job site.
3. No work shall be permitted on Saturday or Sunday.

Subtotal Bid "A" (Including all Allowances and Applicable Sales Tax):

_____ ***Dollars*** _____ ***Cents ($_____)***

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
CNW Street C-Fund Paving

Item No.	Description	Quantity	Unit	Unit Bid	Total
1	Mobilization, Traffic Control Devices & Signage	1	L.S.	_____	_____
2	Earthwork (fill)	1	L.S.	_____	_____
3	Demolition	1	L.S.	_____	_____
4	Moving Items Mailboxes, Street Signs, Etc. to R/W Line or Designated Area	1	L.S.	_____	_____
5	Clearing & Grubbing, Drainage, Easement & Construction Limits	1.9	ACRES	_____	_____
6	Install, Maintain, & Remove Construction Exit	1	EACH	_____	_____
7	Install and Maintain Silt Fence	1500	L.F.	_____	_____
8	Shape and mix Subgrade and Include compaction and core (max 2)	4050	Sq Yds	_____	_____
9	Prime Coat	3700	Sq Yds	_____	_____
10	6” Sand Clay Base Includes compaction and core (max 2)	4050	Sq Yds	_____	_____
11	1-1/2” Type C Asphalt Includes cores (max 2)	4010	Sq Yds	_____	_____
12	Pavement with SCDOT section	115	Sq Yds	_____	_____
13	Pave Driveways includes shape subgrade, 6” compacted sand-clay base, and pavement	7	EACH		
14	Cut and Patch Concrete Driveway	20	Sq Yds	_____	_____

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
CNW Street C-Fund Paving

Item No.	Description	Quantity	Unit	Unit Bid	Total
15	Outlet Protection/ Rip Rap placement (10'L x 11.5'W) W/ Filter Fabric & Rip Rap	25	Sq Yds	_____	_____
16	Grassing, Fertilizer, and Mulch	1.1	ACRES	_____	_____
17	18" RCP	508	L.F.	_____	_____
18	18" Safety End Section	16	EACH	_____	_____
19	Rip Rap Check Dams Installed and Maintained	21	EACH	_____	_____
20	Relocate Ex Brick Fence at Williams Property	1	L.S.	_____	_____
21	Install Street signs	1	LUMP	_____	_____
22	Install Stop signs	1	LUMP	_____	_____
23	Install Stop bars	1	LUMP	_____	_____
24	Install pavement markers Raised Yellow Pavement B: Directional Markers (4" Square) @ 80' O.C. Maximum Spacing	21	EACH	_____	_____

Note: 1. Roadway to be compacted with 6 to 12 ton rollers Per SCDOT.
2. Rates will be confirmed by asphalt tickets from the job site.
3. No work shall be permitted on Saturday or Sunday.

Subtotal Bid "B" (Including all Allowances and Applicable Sales Tax):

_____ ***Dollars*** _____ ***Cents ($_____)***

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Thomas Lane C-Fund Paving

Item No.	Description	Quantity	Unit	Unit Bid	Total
1	Mobilization, Traffic Control Devices & Signage	1	L.S.	_____	_____
2	Earthwork (fill)	1	L.S.	_____	_____
3	Demolition	1	L.S.	_____	_____
4	Moving Items Mailboxes, Street Signs, Etc. to R/W Line or Designated Area	1	L.S.	_____	_____
5	Clearing & Grubbing, Drainage, Easement & Construction Limits	0.6	ACRES	_____	_____
6	Install, Maintain, & Remove Construction Exit	1	EACH	_____	_____
7	Install and Maintain Silt Fence	490	L.F.	_____	_____
8	Shape and mix Subgrade and Include compaction and core (max 2)	1300	Sq Yds	_____	_____
9	Prime Coat	1200	Sq Yds	_____	_____
10	6” Sand Clay Base Includes compaction and core (max 2)	1300	Sq Yds	_____	_____
11	1-1/2” Type C Asphalt Includes cores (max 2)	1270	Sq Yds	_____	_____
12	Pavement with SCDOT section	100	Sq Yds	_____	_____
13	Pave Driveways includes shape subgrade, 6” compacted sand-clay base, and pavement	3	EACH	_____	_____
14	Rip Rap Check Dams	4	EACH	_____	_____

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Thomas Lane C-Fund Paving

Item No.	**Description**	**Quantity**	**Unit**	**Unit Bid**	**Total**
15	Grassing, Fertilizer, and Mulch	0.4	ACRES	_____	_____
16	Install Street signs	1	LUMP	_____	_____
17	Install Stop signs	1	LUMP	_____	_____
18	Install Stop bars	1	LUMP	_____	_____
19	Install pavement markers Raised Yellow Pavement B: Directional Markers (4" Square) @ 80' O.C. Maximum Spacing	6	EACH	_____	_____
20	Remove & replace ex. Wooden fence in kind	30	L.F.	_____	_____

Subtotal Bid "C" (Including all Allowances and Applicable Sales Tax):

_____ ***Dollars*** _____ ***Cents ($_____)***

Total Bid (A+B+C) (Including all Allowances and Applicable Sales Tax):

_____ ***Dollars*** _____ ***Cents ($_____)***

The Bidder further proposes and agrees hereby to commence work under this contract, with adequate force and equipment, on a date to be specified in a written order of the Engineer, and shall fully complete all work there under within the following number of consecutive calendar days from and including that date:

(360) Consecutive **Calendar Days**

The Bidder declares that he understands that the unit price quantities shown in the Bid are subject to adjustment by either increase or decrease, and that should the quantities of any of the items of the work be increased, the undersigned proposes to do the additional work at the unit prices stated herein; and should the quantities be decreased, he also understands that paymentwill be made on actual quantities used at the unit price bid and will make no claim for anticipated profits for any decrease in the quantities and that quantities will be determined upon completion of the work at which time adjustment will be made to the contract amount by direct increase or decrease.

Submitted: _____

By: _____ **(L.S)**

Title: _____

General Contractor's License No. _____

(Note: If the Bidder is a Corporation, the Bid shall be signed by a duly authorized Officer *of the Corporation; if a Partnership, it shall be signed by a Partner. If signed by other, authority for signature shall be attached. The name of the person Signing must be typed in under his/her signature.*

STATE OF SOUTH CAROLINA)
) CONSTRUCTION AGREEMENT
COUNTY OF AIKEN)

THIS AGREEMENT is made and entered into on the _____ day of _____ 2016, by and between AIKEN COUNTY, SOUTH CAROLINA, a body politic and corporate and a political subdivision of the State of South Carolina, (hereinafter called the "OWNER") and (Insert FULL LEGAL NAME of Contractor), a (if incorporated, insert STATE where incorporated) corporation (hereinafter called the "CONTRACTOR").

WITNESSETH:

That the CONTRACTOR, for the consideration hereinafter fully set out, hereby agrees with the OWNER as follows:

1. That the CONTRACTOR will furnish all equipment, tools, materials, skill, and labor of every description necessary to carry out and to complete in a good, firm, substantial, and workmanlike manner, the Work specified, in strict conformity with the Documents entitled:

Aiken County Government
Byrnes Street, CNW Road, and Thomas Lane Roadway Improvements

on file in the office of the OWNER, and the Specifications hereinafter set forth, which Drawings and Specifications, together with the foregoing Bid, Advertisement for Bids, Instructions to Bidder, Special Provisions, General Conditions, and all addenda hereto annexed, shall form essential parts of this CONSTRUCTION AGREEMENT, as if fully contained herein. The Work covered by this CONSTRUCTION AGREEMENT includes all Work as Specified and listed in the attached Bid, under the following items, to wit:

Aiken County Government
Byrnes Street, CNW Road, and Thomas Lane Roadway Improvements

2. That the CONTRACTOR shall commence Work to be performed under this CONSTRUCTION AGREEMENT on a date to be specified in a written order of the OWNER's ENGINEER and shall fully complete all Work hereunder by **360** consecutive, calendar days except as otherwise provided in these documents for extensions of the above time limit.

Time is of the essence of this CONSTRUCTION AGREEMENT, and the CONTRACTOR shall pay to the OWNER, not as a penalty, but as Liquidated Damages, the sum of:

Five Hundred and 00/100 Dollars ($ 500.00)

for each consecutive, calendar day that the CONTRACTOR shall be in default of completing the Work within the time limit named herein. Because of the difficulty of fixing damages suffered by the OWNER on account of such default, damages are herein agreed upon as stated.

3. The OWNER hereby agrees to pay the CONTRACTOR for the faithful performance of this CONSTRUCTION AGREEMENT, subject to additions and deductions as provided in the Drawings and Specifications, together with the Bid, Advertisements for Bids, Instructions to the Bidders, Special Provisions, General Conditions, and all Addenda hereto annexed, in lawful money of the United States, the sum of:

(Dollars and Cents)

which sum shall also pay for all loss or damages arising out of the nature of the Work aforesaid, or from the action of the elements, or from unforeseen obstructions or difficulties encountered in the prosecuting of the Work, and for all expenses incurred by or in consequence of the Work, its suspension or discontinuance, and for well and faithfully completing the Work and the whole thereof, as herein provided, and for replacing defective Work, material, or equipment provided for a period of **(one year)** after completion of all Work.

4. No later than 30 days after pay requests are promptly and properly submitted, as the Work progresses, the OWNER shall make partial payments to the CONTRACTOR on the value of labor and materials incorporated into the Work and of materials on hand at the Site of the Work, except cement and other materials subject to deterioration, during the preceding calendar month, less payments already made and less deductions for any unaccepted or defective Work, in accordance with terms set forth in the Specifications.

5. Upon submission by the CONTRACTOR of evidence satisfactory to the OWNER that all payrolls, material bills, and other costs of any kind incurred by the CONTRACTOR in connection with the construction of the Work have been paid in full, final payment on account of this CONSTRUCTION AGREEMENT shall be made within thirty (30) days after the completion by the CONTRACTOR of all Work covered by this CONSTRUCTION AGREEMENT and the acceptance of such Work by the OWNER.

IN WITNESS WHEREOF, the parties hereto have caused this CONSTRUCTION AGREEMENT to be executed by their duly authorized officers as of the date first above written in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original agreement. It is the intention of the parties that this Construction Agreement is a sealed instrument regardless of whether or not any seal is actually attached hereto.

Signed, Sealed, and Delivered in the Presence of:

Witnesses:

_____

_____

AIKEN COUNTY, SOUTH CAROLINA

By: _____
Ronnie Young
County Council Chairman

ATTEST:

_____ (SEAL)
COUNTY CLERK (Official Seal)

Signed, Sealed and Delivered in the Presence of:

Witnesses:

_____
(As to the CONTRACTOR)

_____
(Print or Type Name)

_____
(As to the CONTRACTOR)

_____
(Print or Type Name)

_____
(Print or Type Name of CONTRACTOR)

By: *_____

_____
(Print or Type Name)

Its: _____

ATTEST:

*_____ (SEAL)

_____
(Print or Type Name)
Its: _____
(Official Seal)

APPROVED AS TO FORM AND CONTENT

_____
Attorney for the OWNER

*** NOTE: SIGNING INSTRUCTIONS - THESE INSTRUCTIONS MUST BE FOLLOWED.**

If CONTRACTOR is a Corporation, the CONSTRUCTION AGREEMENT must be signed by the President or Vice-President, Attested by the Secretary, and the Corporate Seal affixed.

If CONTRACTOR is a Partnership, the CONSTRUCTION AGREEMENT must be signed in the Partnership's Name by one of the Partners, with indication that (s)he is a General Partner. Signatures must be legible with the printed or typed name under each appropriate signature.

PERFORMANCE BOND

STATE OF SOUTH CAROLINA)
)
COUNTY OF AIKEN)

KNOW ALL MEN BY THESE PRESENTS, that we _____ (hereinafter called the CONTRACTOR), of _____ as principal, and _____ a corporation duly qualified and authorized under the laws of the State of South Carolina to act as surety bonds (hereinafter called the SURETY), do hereby acknowledge ourselves indebted and firmly bound and held unto Aiken County, South Carolina, a body politic, and Corporate, and a Political Subdivision of the State of South Carolina (hereinafter called the OWNER) for the use and benefit of those entitled hereto, in the sum of:

_____

($) Dollars and Cents

for the payment of which well and truly to be made in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITIONS OF THE FOREGOING OBLIGATION OR BOND ARE THIS:

WHEREAS, the CONTRACTOR has entered into a written Agreement or Contract with the OWNER, a copy of said contract being attached hereto and is by reference made a part hereof, the same as if set forth fully herein for constructing:

Aiken County Government
Byrnes Street, CNW Street, Thomas Lane C-Fund Paving

and it is the desire of the OWNER that the said CONTRACTOR shall assure all undertakings under said Agreement or Contract.

NOW THEREFORE, if the said CONTRACTOR shall fully and faithfully perform all the undertakings and obligations under the said Agreement or Contract hereinbefore referred to and shall fully indemnify and save harmless the said OWNER from all costs and damages whatsoever which it may suffer by reason of any failure on the part of said CONTRACTOR so to do, and shall fully reimburse and repay the said OWNER any and all outlays and expense which it may incur in making good any such default, and shall guarantee all materials and workmanship against defects for a period of one year after the final settlement of the said Agreement or Contract, then this obligation or Bond shall be null and void, otherwise, to remain in full force and effect.

For value received, it is hereby stipulated and agreed that no changes, alteration, extension of time, or addition to the terms of the said Agreement or Contract or in the Work to be performed thereunder or the Specifications accompanying the same, shall in any wise affect the obligation under said obligation or Bond, and notice is hereby waived of any such changes, extension of time, alteration or addition to the terms of the Agreement or Contract, or to the Work or the Specifications.

IN WITNESS WHEREOF, the said CONTRACTOR has hereunder affixed his signature and said SURETY has hereunto caused to be affixed its corporate signature, and seal, by its attorney-in-fact, on this the _____ day of _____, 2016, executed in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original.

Signed, Sealed, and Delivered in the Presence of:

_____
(CONTRACTOR)

WITNESSES:

1. _____
(As to CONTRACTOR)

_____
(Print or Type Name)

By: _____ L.S.

_____
(Print or Type Name)

Title: _____

2. _____
(As to CONTRACTOR)

_____
(Print or Type Name)

ATTEST:
By: _____

_____
(Print or Type Name)

_____
(SURETY)

WITNESSES:

1. _____
(As to SURETY)

_____
(Print or Type Name)

By: _____ L.S.

_____
(Print or Type Name)

TITLE: _____

2. _____
(As to SURETY)

_____
(Print or Type Name)

ATTEST:
By: _____

_____
(Print or Type Name)

TITLE: _____

(OFFICIAL SEAL)

APPROVED AS TO FORM

_____
(Attorney for the OWNER)

*** NOTE: <u>If the Principal/Contractor is a Corporation, the Bond shall be signed by the President or a Vice-President, attested by the Secretary and the Corporate Seal Affixed. If the Principal/Contractor is a partnership, the Bond shall be signed in the Partnership Name by one of the Partners, with the indication that he is a General Partner. Signatures must be legible and typed in under the appropriate line. THESE INSTRUCTIONS MUST BE FOLLOWED.</u>**

PAYMENT BOND

STATE OF SOUTH CAROLINA)
)
COUNTY OF AIKEN)

KNOW ALL MEN BY THESE PRESENTS, that we _____ (hereinafter called the CONTRACTOR), of _____ as principal, and _____ a corporation duly qualified and authorized under the laws of the State of South Carolina to act as surety bonds (hereinafter called the SURETY), do hereby acknowledge ourselves indebted and firmly bound and held unto Aiken County, South Carolina, a body politic, and Corporate, and a Political Subdivision of the State of South Carolina (hereinafter called the OWNER) for the use and benefit of those entitled hereto, in the sum of:

_____

($) Dollars and Cents

for the payment of which well and truly to be made in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITIONS OF THE FOREGOING OBLIGATION OR BOND ARE THIS:

WHEREAS, the CONTRACTOR has entered into a written Agreement or Contract with the OWNER, a copy of said contract being attached hereto and is by reference made a part hereof, the same as if set forth fully herein for the furnishing of all labor, materials, equipment, tools, and supplies for constructing:

Aiken County Government
Byrnes Street, CNW Street, Thomas Lane C-Fund Paving

and it is the desire of the OWNER that the said CONTRACTOR shall assure and protect all laborers and furnishers of materials on said Work.

NOW THEREFORE, if the said CONTRACTOR and all Subcontractors to whom any portion of the Work provided for in the attached Agreement or such Subcontractors shall promptly make payment to all persons supplying him or them with labor, materials, equipment, tools, and supplies for or in the prosecution of the Work provided for in such Agreement or Contract, or in any amendment, extension, or addition thereto, and for payment of reasonable attorney's fees incurred by any clamant or claimants in suits on this bond, then the above obligation or bond shall be null and void, otherwise, to remain in full force and effect.

PROVIDED, however, that this bond is subject to the following conditions and limitations:

A. **(a)** Any persons, firm or corporation that has furnished labor, materials, equipment, tools, or supplies for, and in the prosecution of the Work provided for in said Agreement or Contract, shall have a direct right of action against the CONTRACTOR and SURETY on this bond, which right of action shall be asserted in a proceeding, instituted in the County in which the Work provided for in said Agreement or Contract is to be performed or in any County in which said CONTRACTOR or SURETY does business. Such right of action shall be asserted in a proceeding instituted in the name of the claimant or claimants for his or their use and benefit against said CONTRACTOR or SURETY or either of them (but no later than one year after the final settlement of said Agreement or Contract) in which action such claim or claims shall be adjudicated and judgment rendered thereon.

(b) The CONTRACTOR and SURETY hereby designate and appoint the County Administrator of Aiken, South Carolina, as the agent for each of them to receive and accept service of process or other pleading issue or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the CONTRACTOR and/or SURETY.

(c) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suits, action, or proceeding thereon that is instituted later than one year after the final settlement of the said Agreement or Contract.

IN WITNESS WHEREOF, the said CONTRACTOR has hereunder affixed his signature and said SURETY has hereunto caused to be affixed its corporate signature, and seal, by its attorney-in-fact, on this the _____ day of _____, 2016, executed in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original.

Signed, Sealed, and Delivered in the Presence of:

_____
(CONTRACTOR)

WITNESSES:

1. _____
(As to CONTRACTOR)

_____
(Print or Type Name)

By: _____ L.S.

_____
(Print or Type Name)

Title: _____

2. _____
(As to CONTRACTOR)

_____
(Print or Type Name)

ATTEST:
By: _____

_____
(Print or Type Name)

_____
(SURETY)

WITNESSES:

1. _____
(As to SURETY)

_____
(Print or Type Name)

By: _____L.S.

_____
(Print or Type Name)

TITLE: _____

2. _____
(As to SURETY)

_____
(Print or Type Name)

ATTEST:
By: _____

_____
(Print or Type Name)

TITLE: _____

(OFFICIAL SEAL)

APPROVED AS TO FORM

_____
(Attorney for the OWNER)

*** NOTE: <u>If the Principal/Contractor is a Corporation, the Bond shall be signed by the President or a Vice-President, attested by the Secretary and the Corporate Seal Affixed. If the Principal/Contractor is a partnership, the Bond shall be signed in the Partnership Name by one of the Partners, with the indication that he is a General Partner. Signatures must be legible and typed in under the appropriate line. THESE INSTRUCTIONS MUST BE FOLLOWED.</u>**

SECTION 01201 – PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: To help clarify construction contract administration procedures, the Aiken County Engineer will conduct a Preconstruction Conference prior to start of the work. Provide attendance by the designated personnel.

1.2 QUALITY ASSURANCE

A. For those persons designated by the Contractor, his subcontractors, and suppliers to attend the Preconstruction Conference, provide required authority to commit the entities they represent to solutions agreed upon in the Conference.

1.3 SUBMITTALS

A. To the maximum extent practicable, advise the County Engineer at least 24 hours in advance of the Conference as to items to be added to the agenda.

B. The County Engineer will compile minutes of the Conference, and will furnish copies of the minutes to the Contractor and copies to the Owner. The Contractor may make and distribute such other copies as he wishes.

1.4 PRECONSTRUCTION CONFERENCE

A. The Conference will be scheduled to be held after the Owner has been issued the Purchase Order, but prior to actual start of the work.

B. Attendance:

1. Provide attendance by authorized representatives of the Contractor and major subcontractor.
2. The County Engineer will advise other interested parties, including the Owner, and request their attendance.

C. Minimum Agenda: Data will be distributed and discussed on:

1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the County Engineer.
2. Channels and procedures for communication;
3. Construction schedule, including sequence of critical work;
4. Contract Documents, including distribution of required copies of drawings and revisions;
5. Processing of Shop Drawings and other data submitted to the County Engineer for review;
6. Processing of field decisions and Change Orders;
7. Rules and regulations governing performance of the Work.
8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

END OF SECTION

SECTION 02190 - SITEWORK/EXCAVATION

PART 1 - GENERAL

1.01 DESCRIPTION

This project covers civil site work for the construction as shown on the plans. These improvements include but are not limited to clearing, grading, filling, compaction, storm sewer installation, asphalt paving, and grassing in accordance with the attached plans and these specifications. The contractor shall supply all materials, equipment, labor, supplies and supervision necessary to properly complete this project as specified. The contractor is responsible for obtaining all permits and licenses, paying all fees and complying with all local, state and federal requirements.

The contractor shall not perform any work outside the limits of the property except where specific easements are shown. In addition, no equipment or material shall be placed outside the right of way without written permission of the property owner and the Engineer's Representative.

A. The extent of site work is shown on drawings.

B. Site work includes but is not limited to:

1. Demolition of existing structures, walks & pavements, utilities and miscellaneous improvements. It is mandatory that the Contractor locate all previously placed underground installations and construction prior to his engaging in any work in areas where such improvements may exist. The Contract drawings indicate general locations of such existing improvements solely for the purpose of initial and general representation thereof. All utilities and improvements must the located and flagged by the Contractor prior to commencing work. Flags must be maintained and based upon actual field determinations.

The Contractor shall be held responsible for any damage and for maintenance and protection of existing construction and utilities. All damaged construction, utilities or improvements shall be restored to the original or better condition in which they were discovered.

2. Site clearing of trees, irrigation, topsoil stripping, clearing and grubbing.

3. Earthwork; preparation of subgrade for drainage fill, structural fill and backfilling.

C. Identify location of above ground & below ground remediation equipment.

1.02 QUALITY ASSURANCE.

A. Testing: Employ, at Contractors expense, testing laboratory, acceptable to Engineer, to perform soil and quality control testing as required. Copies of test reports shall be submitted to Engineer upon request.

1. Field density tests. Perform one test per each 5,000 sq. ft. per lift of fill within roadways. Perform one test per each 10,000 sq. ft. per lift of fill within all other areas

2. Trench Backfill: Perform at least one test per each 300 lineal feet of trench.

3. Optimum moisture/maximum density tests. Perform one test per each type fill and each 1,000 cu. yds. of material.

1.03. JOB CONDITIONS

A. Existing Utilities: Locate all existing utilities within the site.

1. Make arrangements as required to relocate/re-route those utilities serving others off-site.

PART II - PRODUCTS

2.01 MATERIALS

A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups, GW, GP, GM, SM, SW and SP.

B. Subbase Material: Sand / Clay Base meeting SCDOT Specification Section 303.

C. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1-1/2" sieve and not more than 5% passing a No. 4 sieve.

D. Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter.

PART III - EXECUTION

3.01 SITE CLEARING

A. Clearing and Grubbing: Clear site of trees, shrubs and other vegetation, except for those indicated to remain.

1. Completely remove stumps, roots, and other debris protruding through ground surface.

2. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.

B. Removal of Improvements: Remove existing above-grade and below grade improvements necessary to permit construction including abandoned underground piping or conduit interfering with construction.

3.02. EXCAVATION

A. Earth Excavation includes excavation of pavements and obstructions visible on ground surface; underground structures, utilities and other items indicated to be demolished and removed; together with earth and other materials encountered.

B. Excavation for Structures: Conform to elevations and dimensions shown. For footings and foundations extend excavation below frost line and do not disturb bottom of excavation.

C. Excavation for Pavements: Cut surface to comply with cross-section, elevations and grades as shown.

D. Excavation for Trenches: Grade bottoms of trenches as required/indicated, notching under pipe bells to provide solid bearing for entire pipe. Trenches shall be excavated true to line and grade. Trenches to receive pipe having a nominal diameter of 24 inches or less shall not be less than 12 inches wider nor more than 16 inches wider than the outside diameter of the pipe to be laid therein, so that a clear space of not less than 6 inches nor more than 8 inches in width is provided on each side of the pipe.

The maximum width specified applies to the width at or below the level of the top of the pipe. The width of the trench above the pipe may be as wide as necessary to provide room for proper installation of the work. The contractor shall comply with the safety requirements of OSHA.

The bottoms of trenches for water lines shall be rounded so that the lower 90 degree quadrant of the pipe is in direct contact throughout its entire length with undisturbed earth or with suitable compacted fill material. Bell holes and excavation for joints shall be dug by hand after the trench bottom has been shaped. These holes shall be so spaced and sized as to permit first class workmanship on the joint and to insure that the maximum length of pipe possible will rest on the prepared bottom of the trench.

Where rock is encountered in the trench bottom, the excavation shall be carried below the bottom of the pipe a distance of 6 inches or one-eighth the outside diameter of the pipe, whichever is greater. Where, in the opinion of the Engineer, the natural trench bottom is soil which is incapable of satisfactorily supporting the pipe, such unsuitable soil shall be removed to the depth required as determined at the site. The trench bottom shall then be refilled with selected refill material, placed in 8 inch layers and compacted at optimum moisture content. Each layer shall the thoroughly tamped. The refill shall be brought to the proper elevation for the pipe.

E. Shoring/Bracing: Provide shoring, bracing required to support adjoining soils, buildings, etc. Shoring shall be provided by the contractor as necessary to protect life or property. All existing structures, streets, pipes, and foundations which are not to be removed or relocated shall be adequately protected or replaced by the Contractor without cost to the Owner. The Contractor shall adequately protect the work under construction and the safety of his workman in excavations by the use of suitable sheeting, shoring and bracing, or by sloping the banks in accordance with the angle of repose of the soil.

The contractor alone is responsible for any damage or injury resulting from his failure either to provide adequate protection from the excavation or to comply with OSHA requirements.

F. Pumping: Keep excavations, and entire subgrade area free of water. Do not operate any system that will loosen existing soils or cause the subsoils to be removed or shifted from their original position. Grading in the vicinity of structures shall be controlled to prevent surface water from running into excavated areas. Dewatering by pumping or well pointing from excavated areas shall be performed by the contractor to provide a stable excavation and a firm pit or trench bottom. Dewatering shall incur no extra cost to the Owner.

Water removed from the excavated areas shall be conveyed in a proper manner to a suitable point of discharge where it will neither cause injury to public health, public or private property, the surface or use of streets by the public or work completed or in progress.

G. Flotation: To guard against the danger of flotation of empty or partially empty pipe due to a high water table, all dewatering operations shall be continued without interruption until such time as sufficient backfill has been placed over the top of the pipe to overcome the buoyancy effect of a completely empty pipe which is entirely submerged.

3.03 COMPACTION

A. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density for soils exhibiting a well-defined moisture density relationship (cohesive soils) in accordance with ASTM D 1557; or in accordance with ASTM 2049, for soils which not exhibit a well-defined moisture-density relationship (cohesionless soils).

1. Structures, Building Slabs and Steps, Pavements: Compact each layer at 90% maximum density for cohesive material or 95% relative density for cohesionless material.

2. Lawn or Unpaved Areas: Compact each layer at 85% maximum density for cohesive soils and 90% relative density for cohesionless soil.

3. Walkways: Compact each layer at 90% maximum density for cohesive material or 95% relative density for cohesionless material.

4. Trenches: Compact fill to conform to requirements of area in which trench is installed.

3.04 BACKFILL AND FILL

A. General: Place acceptable soil material in not greater than 6” uncompacted layers to required subgrade elevations, for each area classification listed below.

1. In excavations, use satisfactory excavated or borrow material.

2. Under Landscaped areas, use satisfactory excavated or borrow materials.

3. Under walks and pavements, use subbase material, or satisfactory excavated or borrow material, or combination of both.

4. Under steps, use subbase material.

5. Under building slabs, use drainage fill material.

6. Under piping and conduit, use subbase material where subbase is indicated under piping or conduit; shape to fit bottom 90 degrees of cylinder.

3.05 GRADING:

A. General: Uniformly grade areas, including adjacent transition areas. Smooth finished surface, compact with uniform levels or slopes between points where elevations are indicated and existing grades.

B. Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding.

C. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum of relative density for each area classification.

3.06 SOIL EROSION AND SEDIMENTATION CONTROL:

The Contractor will be required to schedule his work and perform operations in such a manner that siltation and bank erosion will be minimized during all phases of construction. Any areas disturbed during the course of construction shall be restored to a condition equal or better than the original condition. Grassing of disturbed areas shall be the minimum acceptable restoration. Silt control devices such as straw bale fences and/or silt fence weight filter fabric shall be installed to limit migration of silt to the water courses. Erosion Control devices such as mats, grass, mulch, and crushed stone shall be installed to protect adjoining areas from soil contamination. Compliance with the guidelines of the South Carolina Stormwater management and Sediment Control Handbook for Land Disturbance Activities and the National Pollution Discharge Elimination System, shall apply as though fully set forth therein.

Permanent erosion control measures for this site include moderate slopes, rip rap, and permanent grassing. The Contractor shall strive to expedite completion of the permanent measures and shall keep the temporary measures in place until a satisfactory grass cover is established. Sediment and erosion control materials shall be as specified in the technical specifications.

Temporary Silt Fencing shall be installed to limit the migration of silt from the construction area to waterways or proximate water courses. Filter fabrics free of defects or flaws shall be installed against a stable, post supported wire backing to intercept all runoff from the construction site.

Filter Fabrics Materials shall be strong rot-proof synthetic fibers formed into a fabric of either the woven or nonwoven type. Either type of fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation. The fabric shall contain stabilizers and/or inhibitors to make the filaments resistant to deterioration resulting from exposure to sunlight or heat. The fabric shall be a pervious sheet of synthetic fibers oriented into a stable network so that the fibers retain their relative position with respect to each other under normal handling, installation, and service conditions. Edges of the fabric shall be finished to prevent the outer yarn from pulling away from the fabric.

During all periods of shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering which will protect the cloth from sunlight, mud, dust, dirt, and debris. The fabric shall not be exposed to temperatures greater than 140 degrees F.

The fabric shall meet be following physical requirements:

Tensile Strength (Lbs. Min.) (ASTM D-4632)	Warp - 120 Fill - 100
Elongation (% Max.) (ASTM D-4632)	40
AOS (Apparent Opening Size) (Max-Sieve Size) (ASTM D-4751)	#30
Flow Rate (Gal/Min/Sq.Ft.) (GDT-87)	25
Ultraviolet Stability (2) (ASTM D-4632 after 300 hours weathering in accordance with ASTM D-4355)	80
Bursting Strength (PSI Kin.) (ASTM D-3786 Diaphragm Bursting Strength Tester)	175
Minimum Fabric Width (Inches)	24

Filter Fabric Backing shall be woven wire and attached to the posts by wire, cord, staples, nails, or other acceptable means. The filter fabric shall be installed in such a manner that 6 to 8 inches of fabric is left at the bottom to be buried and a minimum overlap of 18 inches is provided at all splice joints. After the fabric is installed in a trench, the trench is then to be backfilled and compacted so that no flow can pass under the barrier.

The Wire Support Fence shall be at least 24" high and shall have at least 6 horizontal wires 4X4 Wl..4 X Wl.4 or equal.

Posts shall be a minimum of 4 feet long steel posts. Maximum post spacing shall be 4 feet.

Removal of Temporary Soil Erosion and Sediment Control Measures: After permanent erosion control features of the work site are complete and ample grass is established, the temporary fences, ditch checks, etc. shall be removed. Silt which has collected shall be removed, or when appropriate, regraded, stabilized, and planted.

END OF SECTION

SECTION 02500 - PAVING & SURFACING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Extent of paving and surfacing is shown on the drawings and includes but is not limited to:

1. Asphalt paving.
2. SCDOT R/W paving.
3. Pavement markings.
4. Signs and posts.

B. The current edition of the following specifications form a part of this specification:

American Society for Testing Materials Designation:

C 33	Concrete Aggregates
C 150	Portland Cement
A 615	Reinforcing Steel
C 94	Ready-Mix Concrete
C 31	Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field

American Concrete Institute Publications:

ACI 318 Building Code Requirement for Reinforced Concrete
ACI 315 Manual of Standard Practice for Detailing Reinforced Concrete Structures

1.02 QUALITY ASSURANCE

A. Comply with and perform all paving work in accordance with the SCDOT Standard Specifications for Road Construction (latest edition) and the Asphalt Institute "Specifications for Paving and Industrial Applications (SS-2), information series documents IS 91 and IS 87.

B. Asphalt cement materials shall conform to ASTM D-3515.

C. Obtain materials from same source throughout project.

D. At Engineers discretion “suspect” installation will be tested, at Owners expense, for conformance to State D.O.T. Specifications by:

1. Using proper rolling equipment for: Breakdown , compaction and finishing.

2. Extraction and gradation for compliance with approved job mix formula.

Non complying installations will be replaced at the contractors expense.

1.03. JOB CONDITIONS

A. Establish grades, lines and elevations to drain water away from buildings, prohibit ponding and accommodate adjoining work and property.

B. Subgrade Conditions: Provide subgrade improvements as required to correct adverse conditions caused by permeability, frost potential and unstable soils.

1.04 GUARANTEE

A. Contractor shall guarantee in writing, the materials and workmanship in accordance with Section 01010, for a period of one (1) year, beginning on the date of substantial completion.

PART II PRODUCTS

2.01 MATERIALS

A. Asphalt Aggregate Mix: Plant-mixed, medium volume, hot laid asphalt-aggregate mixture AC 10 or AC 20 complying with ASTM D 3515 and as recommended by local paving authorities to suit project conditions and as follows:

.

ASPHALT GRADE	TEMPERATURE CONDITION
Use AC 10 for:	Cold, mean annual air temperature $\leq$ 7 degree C (45 degree F)
Use AC 10 or AC 20 for:	Warm, mean annual air temperature between 7 degree C (45 degree F) and 24 degree C (75 degree F)
Use AC 20 for:	Hot, mean annual air temperature $\geq$ 24 degree C (75 degree F)

B. Plant Mixed Sand / Clay Base Course: Provide one course laid to a compacted thickness of 6 inches. SCDOT Sand / Claybase

C. Plant Mixed Asphalt Surface Course: Provide one course laid to a compacted thickness of 1-1/2 inches. SCDOT Type C.

D. Prime Coat: Cut back asphalt type; AASHTO M82, MC-30, MC-70 or MC-250. Apply material over compacted subgrade to penetrate and seal. Slow cure (SC) or rapid cure (RC) liquid asphalts may be used depending on weather/climate conditions. Cure as necessary.

E. Tack Coat: Emulsified asphalt AASHTO M 140 or M 208: SS-1, SS-1h, CSS-1, CSS-1h, diluted with one part water to one part emulsified asphalt. Apply to contact surfaces of previously constructed asphalt.

2.02 CONCRETE

Materials:

Cement: Portland Cement shall be Type I or Type III conforming to ASTM C 150. Only one brand of cement shall be used for exposed concrete in any individual structure.

Fine Aggregate shall consist of natural sand, manufactured sand or a combination thereof, conforming to the requirement of ASTM C 33, Concrete Aggregate.

Coarse Aggregate shall consist of crushed stone, gravel, or air cooled blast-furnace slag, or a combination thereof, conforming to the requirement of ASTM C 33, Concrete Aggregates.

Water shall be clean and free from oils, acids, salts, or other injurious substances.

Admixtures shall be used to provide entrained air. Other admixtures shall be used only with written approval of the Engineer. Air entraining admixtures shall conform to ASTM C 260. Other admixtures shall conform to ASTM C 494. Calcium chloride will not be permitted.

Curing Materials shall be approved by the Engineer before use.

Reinforcing steel for concrete shall conform to ASTM A 615, Grade 40 or Grade 60 except as otherwise noted on the drawings. Shop drawings are required.

Storage of Materials: Cement and aggregates shall be stored in such a manner as to prevent deterioration or intrusion of foreign matter. Steel reinforcing shall be stored in such a manner as to the protected from rusting, oil, grease, and distortion.

Mix: All concrete shall have a minimum 28-day compressive strength of 3,000 pounds per square inch and a slump of 4 inches, unless otherwise indicated. All concrete shall be mixed in a power operated batch mixer. The contents of the mixer shall be completely discharged before each new batch is loaded. Ready mix concrete shall conform to ASTM C 94. The use of retempered concrete will not be permitted.

Concrete for pipe encasement, blocking, and collars shall have a minimum strength of 3,000 psi.

2.03 MISCELLANEOUS PRODUCTS

A. Pavement Marking Paint: FS-TT-P-1952, Type D, (Waterborne) color; highway yellow or as required by local codes.

B. Raised pavement markers: SCDOT Section 630-000.

PART III EXECUTION

3.01 SURFACE PREPARATION

A. Compact subgrade to 100% of standard proctor density. Proof roll and repair all unstable areas of the prepared sub-base. The sub-base shall be processed in one course to a depth of 12 inches below the sand / clay base material.

3.02 FIELD QUALITY CONTROL:

A. General: Repair or remove and replace unacceptable or non-compliant paving, as determined by an independent testing laboratory and as directed by Engineer.

B. Surface Smoothness: Surfaces will not be acceptable if exceeding the following tolerances for smoothness when tested with a 10' straight edge.

1. Wearing Course Surface: 3/16".

2. Pavement variation from true design elevation : 1/4”.

3. Areas which pond water will be cut out and replaced with hot mixed asphalt.

END OF SECTION

SECTION 02700 – DRAINAGE SYSTEM

1.01 SCOPE:

The work covered by this section of the specifications consists of furnishing all plant, labor, supervision, equipment and materials, and performing all operations in connection with the installation of the storm sewer system, complete, in strict accordance with this section of the specifications and the applicable plans, and subject to the terms and conditions of the contract.

1.02 MATERIAL:

REINFORCED CONCRETE PIPE (RCP): Shall be class III, conforming to ASTM Specification C-76.

POLYETHYLENE PIPE (HDPE): Smooth interior corrugated Polyethylene Pipe and fittings shall be high density polyethylene conforming to applicable ASTM & AASHTO designations M294 and M252 standards. Polyethylene pipe is only permitted where specifically indicated on the Plans and must be installed in accordance with pipe manufacturer's installation guidelines for Heavy Duty Drainage applications. Pipe shall be ADS – N12 (Advanced Drainage Systems, Inc) or engineer approved equal.

CORRUGATED METAL PIPE (CMP): Shall be aluminized steel type-2, manufactured per AASHTO M-274 or equivalent galvinized steel Durazinc (4 oz). Pipes and fittings with less than 10 feet cover shall be 16 gauge for pipes 15" through 36". Installation shall be in accordance with manufacturer's guidelines.

BACKFILL MATERIALS: When porous backfill is specified, it shall be clean, natural washed sand (ASTM C-144-70).

STONE AGGREGATE: The stone aggregate material shall conform to state and local D.O.T. specifications.

DROP INLET, CATCH BASIN, AND MANHOLE:

1. Structure: Cast in place structures shall at minimum meet Dept. of Transportation's standards for heavy duty traffic loading, but shall in no case be brick or block laid.

2. Concrete conform to ACI 301-66 for working stress concrete work. A twenty-eight (28) day compressive strength of 3000 psi.

3. Precast concrete structures meeting local standards shall conform to ASTM Specification C478-67 may be used at the Contractor's option.

4. Frame Castings: Securely hold in place to proper line and grade and make an integral part of the completed structure.

5. Manhole Steps: Solid cast iron of standard pattern and built into the walls of all structures where indicated. Manhole steps shall be similar and equal to Clow-National, F-3650.

6. Frames, Covers and Grates: Cast iron to size and type as detailed on Drawings.

7. All structures shall be kept clean of silt, debris and other foreign matter.

1.03 EXECUTION:

1. Pipe Installation Requirements:

A. Preparation of Trenches for Pipe Laying:

1) Width of trenches at any point below top of pipe shall not be greater than outside diameter of pipe plus sixteen (16") inches, to permit satisfactory jointing and thorough tamping of bedding material under and around pipe. Care shall be taken not to over-excavate.

2) Trenches shall be kept free from water until the pipe is laid and trench backfilled and mortar has sufficiently hardened.

3) Trenches shall be shored, barricaded and maintained in such a manner as to protect workmen and the public from danger.

4) The depth of the trench will be taken at each grade board and the average of the two adjacent depths will be used to compute the depth of the cut for that section. If drainage lines are placed by use of laser beam, trench depths are to be measured at points where grade boards would otherwise be. All drainage lines will be measured horizontally from center to center of drop inlets.

B. Preparation of Foundation for Pipe Laying:

1) The foundation in the trench shall be formed to prevent any subsequent settlement which might result in excessive pressure and consequent rupture of the pipes. Batter boards shall be set at fifty (50') foot intervals to check the line and invert grade.

2) Whenever wet or unstable soil incapable of adequately supporting pipe is encountered in trench bottoms, under the guidance of the Geotechnical Engineer, remove such materials to depth required and replace to the proper grade with appropriate fill.

3) Provide bedding surface for pipe on a firm foundation of uniform density throughout length of pipe. Carefully bed pipe in a soil foundation which is accurately shaped and rounded to conform to lowest one-quarter outside portion of pipe with bedding tamped firmly. Bell holes and depressions for joints shall be only of such length, depth and width as required for properly making particular type joints.

C. Pipe Laying:

A. The Contractor shall carefully examine each length of pipe before laying and shall not lay any defective pipe.

B. Commence laying pipes in finished trenches at the lowest point.

3) Lay all pipes with ends abutting, true to line and grade. Fit and match pipes in a manner so that when laid they will form a sewer with a smooth and uniform invert.

4) Clean ends of pipe carefully before lowering into trenches. The pipes shall be so lowered as to avoid unnecessary handling in the trench.

5) Set joints firmly according to line and grade. Join together in a manner to produce an assembly that will be structurally sound and watertight.

D. Backfilling Trenches:

1) After bedding has been prepared and pipe installed, select material with a moisture content that will facilitate compaction, and place along both sides of pipe in layers not exceeding four (4") inches in compacted depth. Bring backfill up evenly on both sides of pipe for its full length. Care shall be taken to insure thorough compaction of fill under haunches of pipe. Thoroughly compact each layer with mechanical tampers and rammers. Continue this method of filling and compacting until fill has reached an elevation of at least twelve (12") inches above the top of pipe. Backfill and compact remainder of trench by spreading and rolling, or compact by mechanical rammers or tampers in layers of four (4") inches.

2) If moved, wet down each layer of fill and backfill to obtain suitable moisture content. Compaction shall then be to a minimum of ninety-five (95%) percent of the Standard Proctor Maximum Dry Density (ASTM, Spec. D698).

3) Puddling of water flooding for consolidating the backfilling will not be allowed.

4) Walking or working on the complete pipeline, except as may be necessary in tamping or backfilling, will not be permitted until the trench has been backfilled to a height of at least two (2') feet above the top of the pipes.

5) The filling of the trench shall be carried on simultaneously on both sides of the pipes in such a manner that injurious side pressures do not occur.

2. Drainage Structures Installation Requirements:

A. Catch basins and junction boxes shall be precast per State Dept. of Transportation's heavy traffic loading. Construct weirs, headwalls and similar structures of reinforced concrete unless otherwise indicated; precast concrete units at Contractor's option.

1) Provide concrete foundations for manholes and other structures as indicated.

2) Concrete structures shall be reinforced.

3) All concrete construction shall receive a smooth formed finish in accordance with ACI-301-72 on all surfaces exposed to exterior or interior of structure; rough formed for all unexposed construction.

4) Moist cure concrete for a minimum of seven days after placing.

B. Where manholes occur in pavement, set tops of frames and covers flush with finish surface. Elsewhere, set tops 3" above finish surface, unless otherwise indicated.

C. Backfill at structures and compact as specified for building walls, in accordance with earthwork section.

END OF SECTION