



Project Number 21326

Riverview Fire Station 1 Site Improvements

Date: June 2024

OWNER:

YORK COUNTY, ENGINEERING DEPARTMENT
PO BOX 148
6 SOUTH CONGRESS STREET
YORK, SOUTH SC 29745
(803) 684-8571
(803) 684-8596 FAX

York County Council

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Allison Love, Vice Chair
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BID FORM

Riverview Fire Station 1 Site Improvements

Submitted: _____, 20__

York County Government
6 South Congress Street
York, SC 29745

Sir or Madam:

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Bid, as principal or principals, is or are named herein and that no other person than herein mentioned has any interest in the Bid of the Contract to which the work pertains; that this Bid is made without connection or arrangement with any other person, company, or parties making a bid or proposal and that the Bid is in all respects fair and made in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the Work and, through personal knowledge and experience and/or subsurface investigations, has fully satisfied himself in regard to all conditions pertaining to such site and he assumes full responsibility therefore; that he has examined the Drawings and Specifications for the Work and from his own experience or from professional advice that the Drawings and Specifications are sufficient for the Work to be done; that he has examined the other Contract Documents and all addenda relating thereto, and that he has satisfied himself fully, relative to all matters and conditions with respect to the Work to which this Bid pertains.

The Bidder proposes and agrees, if this Proposal is accepted, to contract with York County Government (OWNER) in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, transportation and labor and to perform all work necessary to complete the Work specified in the Bid and other Contract Documents.

The Bidder further proposes and agrees to commence substantial work on this project within 15 days of a Notice to Proceed and agrees that the Work will be completed and ready for final payment **within 180 days** of the Notice to Proceed.

The Bidder further agrees that the deductions for liquidated damages, as stated in the Agreement and General Conditions, constitute fixed, agreed, and liquidated damages to reimburse the OWNER for additional costs to the OWNER resulting from the Work not being completed within the time limit stated in the Contract Form. The liquidated damages shall be \$100.00 for each consecutive calendar day thereafter.

The Bidder further agrees to execute a Contract and furnish satisfactory Performance and Indemnity and Payment Bonds, and the required Certificates of Insurance, within ten consecutive calendar days after receipt of Notice of Award of the Contract, and the undersigned agrees that in case of failure on his part to execute the said Contract and Performance and Indemnity and Payment Bonds within the ten (10) consecutive calendar days after the award of the Contract, the Bid guarantee accompanying his Bid and the money payable thereon shall be paid to the OWNER as liquidation of damages sustained by the OWNER; otherwise, the Bid guarantee shall be returned to the undersigned after the Contract is signed and the Performance and Indemnity and Payment Bonds are filed.

BID FORM

A. Bid Amount: (The base bid of this bid document shall include all costs in a Lump Sum Amount for the items)

TOTAL PROJECT BID (SINGLE-PRIME): \$ _____

Total in words _____

B. Bid Bond:

Attached hereto is a cashier's check on the Bank of _____
or Bid Bond for the sum of _____
made payable to _____ (Owner).

C. Acknowledgement of Addenda

If any Addenda are issued, Bidder hereby acknowledges receipt of all Addenda through and including:

Addenda: #1 _____ #2 _____ #3 _____ #4 _____ #5 _____

D. Contractor's Classifications and Subclassifications

SC Contractor's License Number(s): _____

Classification(s) and Limits: _____

Subclassifications (s) & Limits _____

E. List of Subcontractor(s)

Subcontractor(s) _____

F: Signature Page - OFFERORS MUST COMPLETE AND SIGN THE FORM BELOW

The submittal must be signed by an authorized representative of the Offeror accepting all terms and conditions contained in this document and any addenda. Modifying the terms and conditions of this solicitation may result in your response being rejected.

COMPANY NAME

FEDERAL TAX ID NUMBER

COMPANY ADDRESS

CITY, STATE, ZIP+4

PAYMENT/REMITTANCE ADDRESS

CITY, STATE, ZIP+4

EMAIL ADDRESS

COMPANY TELEPHONE

PRINT NAME

TITLE

AUTHORIZED SIGNATURE

DATE

Minority Status

- _____ Not Minority Owned
- _____ African American Male
- _____ Caucasian Female
- _____ African American Female
- _____ Aleut
- _____ Eskimo
- _____ East Indian
- _____ Native American
- _____ Asian
- _____ Other (Please Explain)

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type.
See Specific Instructions on page 3.

	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
				-			-				
or											
Employer identification number											
				-							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

BID BOND

STATE OF SOUTH CAROLINA
COUNTY OF YORK

KNOW ALL MEN BY THESE PRESENTS, that _____
as Principal, and _____, as Surety, a
Corporation chartered and existing under the laws of the State of _____
_____, with its principal offices in the City of _____, and authorized to do business
in the State of South Carolina are held and firmly bound unto the OWNER, _____
_____ in the penal Sum of _____
_____ Dollars (\$_____) lawful money of the
United States, for the payment of which sum will and truly to be made, we bind ourselves, our heirs,
executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted to the
OWNER the accompanying bid, dated _____, **2024**, for:

Riverview Fire Station 1 Site Improvements

NOW, THEREFORE,

- A. If said Bid shall be rejected, or
- B. If the principal shall not withdraw said Bid within twenty-four (24) hours after date of opening of the same, and shall within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the OWNER in accordance with the Bid as accepted, and give bonds with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract, then the above obligations shall be void and of no effect, otherwise to remain in full force and effect.
- C. In the event of the withdrawal of said Bid within the period specified, or the failure to enter into such contract and give such bonds within the time specified, if the principal shall pay the OWNER the difference between the amount specified in said bid and the amount for which the OWNER may procure the required work and supplies, if the latter amount be in excess of the former, then the above obligations shall be void and of no effect, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their several seals, this ____ day of _____, A.D., 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required).
(If Corporation, Secretary only will attest and affix seal).

WITNESSES:

PRINCIPAL:

Name of Firm

Signature of Authorized Officer
(Affix Seal)

Title

Business Address

City State

WITNESS:

SURETY:

Corporate Surety

(Affix Attorney-in-Fact Seal)

Business Address

City State

Name of Local Insurance Agency

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the principal, was then _____ of said corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

(Corporate Secretary Seal)

STATE OF SOUTH CAROLINA
COUNTY OF YORK

Before me, a Notary Public duly commissioned, qualified and acting, personally appeared _____ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the _____ and that he has been authorized by _____ to execute the foregoing bond on behalf of the Contractor named therein in favor of the OWNER, the _____.

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

(Attach Power of Attorney
to original Bid Bond)

Notary Public
State of South Carolina-at-Large

My Commission Expires: _____

END OF SECTION

NON-COLLUSION AFFIDAVIT

State of _____)

County of _____)

_____, being first duly sworn, deposes and says that:

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

(Signed) _____

 (Title)

Subscribed and sworn to before me
 this ____ day of _____, 2024 _____

 (Title)

My commission expires _____

NOTICE OF AWARD

TO: _____

FROM: York County Engineering _____
P.O. Box 148 _____
York, SC 29745 _____

PROJECT TITLE: Riverview Fire Station 1 Site Improvements

PROJECT DESCRIPTION Site improvements which include; remove and replace a small retaining wall, remove and replace concrete, sidewalk, storm drainage, and minor earthwork, asphalt milling and resurfacing and seeding and mulching and other activities as noted on the plans.

The Owner has considered the Bid submitted by you for the above described work in response to its Advertisement for Bids dated _____, 2024__ and Information for Bidders.

You are hereby notified that your Bid has been accepted for items in the amount of _____ (Spell out amount: _____)

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond, Payment Bond and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said Bonds within ten (10) days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

Dated this ___ day of _____, 2024__.

On behalf of the York County Council

By: _____
By: _____

Title: County Engineer _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged

By: _____

Title: _____

This _____ day of _____, 2024__.

AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 2024 A.D., by and between the York County Government, party of the first part (hereinafter sometimes called the "OWNER"), and _____ party of the second part (hereinafter sometimes called the "CONTRACTOR").

WITNESSETH: That the parties hereto, for the consideration hereinafter set forth, mutually agree as follows:

1. SCOPE OF THE WORK

1.1. The CONTRACTOR shall furnish all labor, materials, equipment, machinery, tools, apparatus, and transportation and perform all of the Work shown on the Drawings and described in the Specifications entitled:

Riverview Fire Station 1 Site Improvements

as prepared by York County Engineering Department acting as, and in the Contract Documents entitled the ENGINEER, and shall do everything required by this Contract and the other Contract Documents.

2. THE CONTRACT SUM

2.1. The OWNER shall pay to the CONTRACTOR for the faithful performance of the Contract, in lawful money of the United States, and subject to addition and deductions as provided in the Contract Documents, a total sum as follows:

Based upon the prices shown in the Bid heretofore submitted to the OWNER by the CONTRACTOR, a copy of said Proposal being a part of these Contract Documents, the aggregate amount of this Contract (obtained from either the lump sum price, the application of unit prices to the quantities shown in the Bid, or the combination of both) being the sum of

(\$).

3. COMMENCEMENT AND COMPLETION OF WORK

3.1. The CONTRACTOR shall commence Work and the Contract Time will commence to run on the date fixed in the Notice to Proceed.

3.2. The CONTRACTOR shall prosecute the Work with faithfulness and diligence and shall be completed and ready for final payment within ***180 Calendar*** days after commencement date fixed in the Notice to Proceed.

4. CONTRACTOR'S ACCEPTANCE OF CONDITIONS

4.1. The CONTRACTOR hereby agrees that, by virtue of submitting a completed Bid including his declarations therein of full satisfaction, knowledge and understanding of the Contract Documents, site conditions (surface and subsurface) and all other conditions affecting the Work, he assumes full responsibility for performance of the Work as required under this Contract. It is expressly agreed that under no circumstances, conditions or situations shall this Contract be more strongly construed against the OWNER than against the CONTRACTOR and his Surety.

4.2. It is understood and agreed that the passing, approval and/or acceptance of any part of the Work or material by the OWNER, ENGINEER, or by any agent or representative, as being in compliance with the terms of this Contract and/or of the Contract Documents, shall not operate as a waiver by the OWNER of strict compliance with the terms of this Contract, and/or the Contract Documents covering said Work; and the OWNER may require the CONTRACTOR and/or his surety to repair, replace, restore and/or make to comply strictly and in all things with this Contract and the Contract Documents any and all of said Work and/or materials which within a period of one year from and after the date of the acceptance of any such Work or material, are found to be defective or to fail in any way to comply with this Contract or with the Contract Documents. This provision shall not apply to materials or equipment normally expected to deteriorate or wear out and become subject to normal repair and replacement before their condition is discovered. Failure on the part of the CONTRACTOR and/or his Surety, immediately after notice to either, to repair or replace any such defective materials and workmanship shall entitle the OWNER, if it sees fit, to replace or repair the same and recover the reasonable cost of such replacement and/or repair from the CONTRACTOR and/or his surety, who shall in any event be jointly and severally liable to the OWNER for all damage, loss and expense caused to the OWNER by reason of the CONTRACTOR's breach of this Contract and/or his failure to comply strictly and in all things with this Contract.

5. LIQUIDATED DAMAGES

5.1. It is mutually agreed that time is of the essence of this Contract and should the CONTRACTOR fail to complete the work within the specified time, or any authorized extension thereof, there shall be deducted from the compensation otherwise to be paid to the CONTRACTOR, and the OWNER will retain the amount of *One Hundred Dollars (\$100.00)* per calendar day as fixed, agreed, and liquidated damages for each calendar day elapsing beyond the specified time for substantial completion or any authorized extension thereof, which sum shall represent the actual damages which the OWNER will have sustained by failure of the CONTRACTOR to complete the work within the specified time. After substantial completion, if the CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, Contractor shall pay OWNER *One Hundred Dollars (\$100.00)* for each calendar day that expires after the date specified for Final Completion and readiness for final payment until the work is complete and ready for final payment. It being further agreed that said sum is not a penalty, but is the stipulated amount of damages sustained by the OWNER in the event of such default by the CONTRACTOR.

5.2. For the purposes of this Article, the day of final acceptance of the Work shall be considered a day of delay, and the scheduled day of completion of the work shall be considered a day scheduled for production.

6. PARTIAL AND FINAL PAYMENTS

6.1. In accordance with the provisions fully set forth in the General Conditions, and subject to additions and deductions as provided, the OWNER shall pay the CONTRACTOR as follows:

6.1.1. Within 30 days after receipt by the OWNER of the CONTRACTOR's request for partial payment, the OWNER shall make partial payments to the CONTRACTOR, on the basis of the estimate of Work as approved by the ENGINEER, for work performed during the preceding calendar month, less ten percent (10%) of the amount of such estimate which is to be retained by the OWNER until all Work has been performed strictly in accordance with this Agreement and until such Work has been accepted by the OWNER.

6.1.2. Upon submission by the CONTRACTOR of evidence satisfactory to the OWNER that all payrolls, material bills and other costs incurred by the CONTRACTOR in connection with the construction of the Work have been paid in full, including all retainage to

subcontractors on the project, and also after all guarantees that may be required in the specifications have been furnished and are found acceptable by the OWNER, final payment on account of this Agreement shall be made within sixty (60) days after completion by the CONTRACTOR of all Work covered by this Agreement and acceptance of such Work by the OWNER.

6.1.3. Retainage will be released in full at Final Completion.

7. ADDITIONAL BOND

7.1. It is further mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the Performance and Payment Bonds hereto attached for its faithful performance, the OWNER shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bond(s) ceases to be adequate to cover the performance of the Work, the CONTRACTOR shall, at his expense, and within three days after the receipt of notice from the OWNER to do so, furnish an additional bond or bonds, in such form and amount, and with such sureties as shall be satisfactory to the OWNER. In such event, no further payment to the CONTRACTOR shall be deemed due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in manner and form satisfactory to the OWNER.

8. CONTRACT DOCUMENTS

8.1. The Contract Documents, as stated in the Instructions to Bidders, including this Project Manual and General Conditions, and the accompanying Contract Drawings, shall form the Contract and are as fully a part of this Contract as if herein repeated.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and date first above written in three (3) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original Contract. *

Owner

Contractor

By: _____

By: _____

[Corporate Seal]

[Corporate Seal]

Attest: _____

Attest: _____

Address for giving notices:

Address for giving notices:

License No. _____

Agent for service of process: _____

(*) In the event that the CONTRACTOR is a Corporation, a certificate of resolution of the Board of Directors of the Corporation, authorizing the officer who signs the Contract to do so in its behalf shall be completed and submitted with this form.

END OF SECTION

NOTICE TO PROCEED

Date: _____

To: _____

Project:

Riverview Fire Station 1 Site Improvements

You are hereby notified to commence work in accordance with the Agreement dated _____ on or before _____, and you are to complete the work within 180 consecutive calendar days thereafter. The date of completion of all work is therefore _____.

On behalf of the

YORK COUNTY GOVERNMENT

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by _____, this the ____ day of _____, **2024**__.

By: _____

Title: _____

PERFORMANCE AND INDEMNITY BOND

STATE OF SOUTH CAROLINA
COUNTY OF YORK

KNOW ALL MEN BY THESE PRESENTS that _____
_____ as Principal, hereinafter called Contractor, and _____
_____ as Surety, hereinafter
called Surety, are held and firmly bound unto the York County Government, as Obligee, hereinafter called
owner, in the amount of _____
_____ Dollars (\$_____) for the payment whereof Contractor and Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, Contractor has by written agreement dated _____, 20____,
entered into a Contract with Owner for:

Riverview Fire Station 1 Site Improvements

in accordance with Drawings and Specifications prepared by York County Engineering Department,
ENGINEER, which Contract is by reference made a part hereof and is hereinafter referred to as the
Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the
Principal shall in all respects promptly and faithfully perform and comply with the terms and conditions of
said Contract and his obligations thereunder and shall indemnify the OWNER and the ENGINEER and
save either or all of them harmless against and from all costs, expenses and damages arising from the
performance of said Contract or the repair of any work thereunder, then this obligation shall be void;
otherwise, this Bond shall remain in full force and effect, in accordance with the following terms and
conditions:

A. The Principal and Surety jointly and severally agree to pay the OWNER any difference
between the sum to which the said Principal would be entitled on the completion of the Contract, and that
sum which the OWNER may be obliged to pay for the completion of said work by Contract or otherwise,
and any damages, direct or indirect or consequential, which the said OWNER may sustain on account of
such work, or on account of the failure of said CONTRACTOR to properly and in all things, keep and
execute all of the provisions of said Contract.

B. And this Bond shall remain in full force and effect for a period of one (1) year from the
date of final payment of the project by the OWNER and shall provide that the CONTRACTOR guarantees
to repair or replace for said period of one (1) year all work performed and materials and equipment
furnished that were not performed or furnished according to the terms of the Contract, and shall make
good, defects thereof which have become apparent before the expiration of said period of one (1) year. If
any part of the project, in the judgment of the OWNER, for the reasons above stated needs to be
replaced, repaired or made good during that time, the OWNER shall so notify the CONTRACTOR in
writing. If the CONTRACTOR refuses or neglects to do such work within five (5) days from the date of
service of such Notice, the OWNER shall have the work done by others and the cost thereof shall be paid
by the CONTRACTOR or his Surety.

C. And the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive Notice of any change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

D. The surety represents and warrants to the OWNER that they have a minimum Best's Key Rating Guide General Policyholder's Rating of "A-" and Financial Category of "Class VIII".

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this ____ day of _____, 2024, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required).
(If Corporation, Secretary only will attest and affix seal).

PRINCIPAL:

Signature of Authorized Officer
(Affix Seal)

WITNESSES:

Title

Business Address

City State

SURETY:

WITNESS:

Corporate Surety

Attorney-in-Fact (Affix Seal)

Business Address

City State

Name of Local Insurance Agency

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the Principal, was then _____ of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary

Corporate
Seal

STATE OF SOUTH CAROLINA

COUNTY OF YORK

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared _____ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the _____ and that he has been authorized by _____ to execute the foregoing bond on behalf of the Contractor named therein in favor of the _____.

Subscribed and sworn to before me this . day of _____, 2024____, A.D.

(Attach Power of Attorney)

Notary Public
State of South Carolina-at-Large

My Commission Expires:

END OF SECTION

PAYMENT BOND

STATE OF SOUTH CAROLINA
COUNTY OF YORK

KNOW ALL MEN BY THESE PRESENTS that _____
_____ as Principal, hereinafter called CONTRACTOR,
and _____ as Surety, hereinafter called
Surety, are held and firmly bound unto the York County Government, as Obligee, hereinafter
called OWNER, in the amount of _____
_____ Dollars(\$_____) for the
payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated _____, 20__, entered
into a Contract with OWNER for:

Riverview Fire Station 1 site improvements

in accordance with Drawings and Specifications prepared by York County Engineering
Department, ENGINEER, which Contract is by reference made a part hereof and is hereinafter
referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the
Principal shall promptly make payments to all claimants, as herein below defined, then this
obligation shall be void; otherwise, this Bond shall remain in full force and effect, subject to the
following terms and conditions:

- A. A claimant is defined as any person supplying the Principal with labor, material and
supplies, used directly or indirectly by the said Principal or any subcontractor in the
prosecution of the work provided for in said Contract.
- B. The above named Principal and Surety hereby jointly and severally agree with the
OWNER that every claimant as herein defined, who has not been paid in full before the
expiration of a period of ninety (90) days after performance of the labor or after complete
delivery of materials and supplies by such claimant, may sue on this Bond for the use of
such claimant, prosecute the suit to final judgment for such sum or sums as may be justly
due claimant, and have execution thereon. The OWNER shall not be liable for the
payment of any costs or expenses of any such suit.
- C. No suit or action shall be commenced hereunder by any claimant:
 - 1. Unless claimant, other than one having a direct contract with the Principal, shall
within forty-five (45) days after beginning to furnish labor, materials or supplies
for the prosecution of the work, furnish the Principal with a notice that he intends
to look to this bond for protection.
 - 2. Unless claimant, other than one having a direct contract with the Principal, shall
within ninety (90) days after such claimant's performance of the labor or complete

delivery of materials and supplies, deliver to the Principal written notice of the performance of such labor or delivery of such material and supplies and the nonpayment therefore.

3. After the expiration of one (1) year from the performance of the labor or completion of delivery of the materials and supplies; it being understood, however, that if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof such limitations shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 4. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- D. The Principal and the Surety jointly and severally, shall repay the OWNER any sum which the OWNER may be compelled to pay because of any lien for labor or materials furnished for any work included in or provided by said Contract.
- E. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration of or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications applicable thereto shall in any way affect its obligations on this Bond, and the Surety hereby waives notice of any such change, extension of time, alterations of or addition to the terms of the Contract, or to the work or to the Specifications.
- F. The Surety represents and warrants to the Owner that they have a minimum Best's Key Rating Guide General Policyholder's rating of "A –" and Financial Category of "Class VIII".

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this ____ day of _____ 20__, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required).
(If Corporation, Secretary only will attest and affix seal).

PRINCIPAL:

Signature of Authorized Officer
(Affix Seal)

WITNESSES:

Title

Business Address

City State

SURETY:

Corporate Surety

Attorney-in-Fact
(Affix Seal)

Business Address

City State

Name of Local Insurance Agency

WITNESS:

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the Principal, was then _____ of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary

Corporate
Seal

STATE OF SOUTH CAROLINA

COUNTY OF YORK

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared _____ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the _____ and that he has been authorized by _____ to execute the foregoing bond on behalf of the CONTRACTOR named therein in favor of the _____.

Subscribed and sworn to before me this ____ day of _____, 2024__, A.D.

(Attach Power of Attorney)

Notary Public
State of South Carolina-at-Large

My Commission Expires: _____

END OF SECTION

CONTRACT CHANGE ORDER

CHANGE ORDER NO: _____

PROJECT: Riverview Fire Station 1 Site Improvements

DATE OF ISSUANCE:

DESCRIPTION OF CHANGE:

CONTRACT AMOUNT		CONTRACT TIME (Calendar Days)	
Original	\$ <u>0</u>	Original Durations	<u>0</u> Days
Previous Change Orders (Add/Deduct)	\$ <u>0</u>	Previous Change Order (Add/Deduct)	<u>0</u> Days
This Change Order (Add/Deduct)	\$ <u>0</u>	This Change Order (Add/Deduct)	<u>0</u> Days
Revised Contract Amount	\$ <u>0</u>	Revised Contract Time	<u>0</u> Days
REVISED CONTRACT COMPLETION DATE IS:			

OWNER	CONTRACTOR	ENGINEER

_____ Attest

CERTIFICATE OF INSURANCE
(May also use applicable Accord form)

THIS IS TO CERTIFY THAT THE _____
Insurance Company

Address _____

Of _____
has issued policies of insurance, as described below and identified by a policy number, to the insured named below; and to certify that such policies are in full force and effect at this time. It is agreed that none of these policies will be cancelled or changed so as to affect the interest(s) of the York County Government (hereinafter sometimes called the OWNER) until thirty (30) days after written notice of such cancellation or change has been delivered to the ENGINEER.

Insured: _____

Address: _____

Status of Insured
_____ Corporation _____ Partnership _____ Individual

Insured: _____

Description of Work: _____

INSURANCE POLICIES IN FORCE

<u>Forms of Coverage</u>	<u>Policy Number</u>	<u>Expiration Date</u>
*Worker's Comp./Employers' Liability	_____	_____
**Comprehensive Auto Liability	_____	_____
***Excess Liability	_____	_____
Other (Please specify type)	_____	_____

POLICY INCLUDES COVERAGE FOR:	YES	NO
1. Additional Insured: OWNER and ENGINEER	_____	_____
2. *Liability under the United States Longshore-men's and Harbor Workers' Compensation Act.	_____	_____
3. **All owned, hired, or nonowned automotive equipment used in connection with work done for the Owner.		
4. Contractual Liability	_____	_____
5. Damage caused by explosion, collapse or structural injury, and damage to underground utilities.	_____	_____
6. Products/Completed Operations	_____	_____
7. Owners and Contractors Protective Liability	_____	_____
8. Personal Injury Liability	_____	_____
9. ***Excess Liability applies excess of:		
(a) Employers' Liability	_____	_____
(b) Comprehensive General Liability	_____	_____
(c) Comprehensive Automobile Liability	_____	_____

<u>Types of Coverage</u>	<u>Forms of Coverage</u>	<u>Minimum Limits of Liability</u>	
Workers' Compensation	Bodily Injury	\$ 1,000,000	Statutory
Employers' Liability	Bodily Injury	\$ 500,000	Each Accident
	Disease	\$ 500,000	Each Person
	Disease	\$ 500,000	Policy Limit
Comprehensive Auto Liability	Combined Single Limit BI/PD	\$ 1,000,000	Each Accident
Comprehensive General Liability	Bodily Injury	\$ 1,000,000	Each Occurrence
		\$ 5,000,000	Aggregate

The Insurance Company hereby agrees to deliver, within ten (10) days, two (2) copies of the above policies to the Engineer when so requested.

NOTE: Entries on this certificate are limited to the Authorized Agent or Insurance Company Representative.

Date _____ (SEAL) _____
Insurance Company

Issued at _____
Authorized Representative

Insurance Agent or Company

- Send original and one copy to:

York County Engineering
Post Office Box 148
6 South Congress Street
York, South Carolina 29745

END OF SECTION

APPLICATION FOR PAYMENT No. _____

Date: _____ Contractor: _____

Project: Riverview Fire Station 1 Site Improvements Project Number: 21326

Purchase Order Number: _____ For Period _____ To _____

Total value of work completed to date (see attached sheet) \$ _____

Total value of materials stored for project (see attached sheet) \$ _____

SUB TOTAL \$ _____

LESS _____ %RETAINED \$ _____

TOTAL \$ _____

LESS PREVIOUS PAYMENTS \$ _____

Other Changes, additions, or deductions
(see attached sheet) \$ _____

TOTAL AMOUNT DUE THIS PAYMENT \$ _____

Previous Payments:				
1	6	11	16	
2	7	12	17	
3	8	13	18	
4	9	14	19	
5	10	15	20	

Submitted By:

I hereby certify to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, and that all amounts have been paid by the Contractor for Work which previous Applications for Payment were issued and payments received from the Owner, that current payment shown herein is now due.

Contractor: _____ Notarized: _____

Signed By: _____ My Commission expires: _____

Date: _____ Affix seal:

Recommended By:

Architect/Engineer: _____ Date: _____

Certified Amount: \$ _____

The Certified amount is payable only to the Contractor named herein. Issuance, payment, and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

Accepted By:

Owner: _____ Date: _____

**RELEASE AND WAIVER OF CLAIM
BY PRIME CONTRACTOR**

Know all men by these presents that the undersigned, _____ of _____
_____ first being duly sworn, states that all payrolls, materials bills, sales tax, privilege
tax or license, old age benefits tax, state and federal unemployment insurance, and other liabilities
incurred for use in the performance of the contract for the **Riverview Fire Station No. 1 Site
Improvements** located in Fort Mill, South Carolina have been paid in full and waives any and all claims
and releases York County Government (York County, South Carolina) from any rights or claims for debts
due and owing by virtue of the furnishing of any material or supplies or any lien thereon.

(Name of Company)

By: _____

Its: _____

Sworn to before me
this _____ day of _____, 20 _____.

Notary Public for _____

My Commission expires: _____

GENERAL CONDITIONS

1. DEFINITIONS

1.1. Whenever used in any of the Contract Documents, the following meanings shall be given to the terms herein defined:

1.1.1. Addendum or *Addenda* - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.1.2. Agreement - The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.1.3. Application *for Payment* - The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.1.4. Bid - The offer or proposal of the bidder on the prescribed Bid Form setting forth the prices for the Work to be performed.

1.1.5. Bidder - One who submits a Bid directly to OWNER, as distinct from sub-bidder, who submits a Bid to a Bidder.

1.1.6. Bidding *Documents* - The Invitation for Bids, Information to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.1.7. Bonds - Performance and Indemnity and Payment Bonds and other instruments of security.

1.1.8. Change *Order* - A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.1.9. *Contract Documents* - Executed Agreement, Addenda (if any), Invitation for Bids, Information to Bidders, Signed Copy of Bid, Bid Guarantee, Statement of Bidder's Qualifications, Performance and Indemnity Bond, Payment Bond, Certification of Insurance, General Conditions, Supplemental Conditions (if any), Special Conditions (if any), Technical Specifications, and Drawings.

1.1.10. *Contract Price* - The moneys payable by OWNER for completion of the Work in accordance with the Contract Documents.

1.1.11. *Contract Times* - The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the work so that it is ready for final payment as evidenced by ENGINEER's written records.

1.1.12. CONTRACTOR - The person, firm, or corporation entering into Contract with the OWNER to construct and install the improvements embraced in this Contract.

1.1.13. *Defective* - An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or had been damaged prior to ENGINEER's recommendation or final payment.

1.1.14. Drawings - The construction drawings which graphically show the scope, extent, and character of the Work to be furnished and performed by the CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

1.1.15. ENGINEER – The person, firm or corporation serving the OWNER with Engineering services, his successors, or any other person or persons, employed by said OWNER for the purpose of directing or having charge of the work embraced in this Contract.

1.1.16. *Laws and Regulations; Laws or Regulations* – Any and all applicable laws, rules, regulations, ordinances codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.1.17. Liens - Liens, charges, security interests or encumbrances upon project funds, real property or personal property.

1.1.18. Local *Government* - York County, South Carolina, within which the Project Areas are situated.

1.1.19. Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.1.20. *Notice of Award* - The written notice by OWNER to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the agreement.

1.1.21. *Notice to Proceed* - A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform, CONTRACTOR's obligations under the Contract Documents.

1.1.22. OWNER - The York County Government, which is authorized to undertake this Contract.

1.1.23. *Partial Utilization* - Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.1.24. *Project* - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.1.25. *Project Area* - The area within which are the specified limits of the improvements to be constructed in whole or in part under this Contract.

1.1.26. *Project Manual* – The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

1.1.27. *Resident Project Representative* – The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

1.1.28. *Samples* - Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.1.29. *Site* – Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of the CONTRACTOR.

1.1.30. *Shop Drawings* - All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.1.31. *Special Conditions* - The part of the Contract Documents that amends or supplements the Technical Specifications.

1.1.32. *Subcontractor* - An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.1.33. *Substantial Completion* - The Work (or specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certification of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.1.34. *Successful Bidder* - The lowest, qualified, responsible and responsive Bidder to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

1.1.35. *Supplier* - A manufacturer, fabricator, supplier, distributor, material man or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.1.36. *Supplemental Conditions* - The part of the Contract Documents that amends or supplements these General Conditions.

1.1.37. *Technical Specifications* - The part of the Contract Documents that describes, outlines, and stipulates: the quality of materials, equipment and systems to be furnished; the quality of workmanship required; and the methods to be used in carrying out the construction work to be performed under this Contract.

1.1.38. *Underground Facilities* - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.

1.1.39. *Unit Price Work* - Work to be paid for on the basis of unit prices.

1.1.40. *Work* - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing and incorporating materials and equipment into the construction, and furnishing, installing and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

1.2 Other technical terms not specifically defined within the Contract Documents shall have the meanings given in AIA Document "Glossary of Construction Industry Terms," current edition. Technical terms not defined as above and used to describe items of the Work, and which so applied have a well-known technical or trade meaning, shall be deemed to have such recognized meaning.

2. CONTRACTOR'S OBLIGATIONS

2.1. All work shall be done in strict accordance with the Contract Documents. Observations, construction reviews, tests, recommendations or approvals by the ENGINEER or persons other than the

CONTRACTOR, shall in no way relieve the CONTRACTOR of his obligations to complete all work in accordance with the Contract Documents. All work shall be done under the direct supervision of the CONTRACTOR. The CONTRACTOR shall be responsible for construction means, methods, techniques, and procedures, and for providing a safe place for the performance of the work by the CONTRACTOR, Subcontractors, suppliers, and their employees and for access, use, work, or occupancy by all authorized persons.

3. LANDS BY CONTRACTOR

3.1. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application, but specifically related to the use of the Site with which the CONTRACTOR must comply in performing work.

3.2. Any land and access thereto not specifically shown to be furnished by the OWNER that may be required for temporary construction facilities or for storage of materials and equipment shall be provided by the CONTRACTOR with no liability to the OWNER. The CONTRACTOR shall confine his apparatus and storage to such additional areas as he may provide at his expense.

3.3. The CONTRACTOR shall not enter upon private property for any purpose without obtaining permission, and he shall be responsible for the preservation of all public property, trees, monuments, structures and improvements, along and adjacent to the street and/or right-of-way, and shall use every precaution necessary to prevent damage or injury thereto. He shall use suitable precautions to prevent damage to pipes, conduits, and other underground structures, and shall protect carefully from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

4. SURVEYS BY CONTRACTOR

4.1. Based upon the Construction Documents and any additional information provided by the OWNER, the CONTRACTOR shall develop and make all detailed surveys necessary for construction, including working points, lines and elevations.

5. PUBLIC UTILITIES

5.1. The elevation and location of all public utilities shown on the Drawings were taken from existing public records. It shall be the duty of the CONTRACTOR to make final and exact determination of the location and extent of all utilities and he will be liable for any expense resulting from damage to them.

6. SUPERINTENDENT

6.1. A qualified superintendent, who is acceptable to the OWNER, shall be maintained on the Work and shall give efficient supervision to the Work until its completion. The superintendent shall have full authority to act in behalf of the CONTRACTOR, and all instruction given to the superintendent shall be considered as given to the CONTRACTOR. It shall be the responsibility of this CONTRACTOR's superintendent to coordinate the Work of all the Subcontractors. The superintendent shall be present on the site at all times required to perform adequate supervision and coordination.

7. SUBCONTRACTORS

7.1. At the time set forth in the Contract Documents or when requested by the OWNER, the CONTRACTOR shall submit in writing for review of the OWNER the names of the Subcontractors proposed for the work. Subcontractors may not be changed except at the request or with the approval of the OWNER. The CONTRACTOR is responsible to the OWNER for the acts and deficiencies of his Subcontractors, and of their direct and indirect employees, to the same extent as he is responsible for the acts and deficiencies of his employees. The Contract Documents shall not be construed as creating any

contractual relation between any Subcontractor and the OWNER. The CONTRACTOR shall bind every Subcontractor by the terms of the Contract Documents.

8. ASSIGNMENTS

8.1. The CONTRACTOR shall not assign the whole or any part of this Contract or any moneys due or to become due hereunder without written consent of the OWNER. In case the CONTRACTOR assigns all or any part of any moneys due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the CONTRACTOR shall be subject to prior claims of all persons, firms, and corporations for services rendered or materials supplied for the performance of the work called for in this Contract.

9. MUTUAL RESPONSIBILITY OF CONTRACTORS

9.1. 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 shall indemnify and save harmless the OWNER against any such claim.

10. ORAL AGREEMENTS

10.1. No oral order, objection, claim or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modification.

11. MATERIALS, SERVICE AND FACILITIES

11.1. It is understood that except as otherwise specifically stated in the Contract Documents, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, gas, light, power, transportation, superintendence, taxes, insurance, 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.

11.2. Any work necessary to be performed after regular working hours, on Sundays or Legal Holidays, shall be performed without additional expense to the OWNER.

12. MATERIALS AND EQUIPMENT

The materials and equipment installed in the work shall meet the requirements of the Contract Documents and no materials or equipment shall be ordered until reviewed by the ENGINEER. The CONTRACTOR shall furnish all materials and equipment not otherwise specifically indicated or provided by the OWNER. The CONTRACTOR shall guarantee all materials and equipment he provides in accordance with Section 16 of these GENERAL CONDITIONS.

12.1. Substitutions: In order to establish standards of Quality, the ENGINEER has, in the detailed Specifications, referred to certain products by name and catalog number without consideration of possible substitute or "or equal" items. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design.

12.1.1. Whenever it is indicated in the Drawings or specified in the specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by the CONTRACTOR, application for

such acceptance will not be considered by the ENGINEER until after the Effective Date of the agreement. The CONTRACTOR shall furnish the complete list of proposed desired substitutions, together with such engineering and catalog data as the ENGINEER may require. All proposals for substitutions shall be submitted in writing by the General Contractor and not by individual trades or material suppliers. The ENGINEER will review proposed substitutions and make his recommendations in writing within reasonable time.

12.1.2. The CONTRACTOR shall abide by the ENGINEER's recommendation when proposed substitute materials or items of equipment are not recommended for installation and shall furnish the specified material or item of equipment in such case.

12.2. Space Requirements: It shall be the responsibility of the CONTRACTOR to ensure that materials and equipment to be furnished fit the space available. He shall make necessary field measurements to ascertain space requirements, including those for connections, and shall order such sizes and shapes of equipment that the final installation shall suit the true intent and meaning of the Contract Documents.

12.3. Arrangement: Where equipment requiring different arrangement of connections from those shown is approved, it shall be the responsibility of the CONTRACTOR to install the equipment to operate properly, and in harmony with the intent of the work required by such arrangement.

12.4. Unacceptable Materials and Equipment: Materials and equipment which do not conform to the requirements of the Contract Documents, or are not equal to samples reviewed by the ENGINEER, or are in any way unsatisfactory or unsuited to the purpose for which they are intended, shall not be furnished nor installed.

12.5. Storage: Materials and equipment shall be so stored as to ensure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground and/or they shall be placed under cover. Stored materials and equipment shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the property owner or leasee. Materials, equipment, construction machinery, fuel, and oils shall not be stored or parked within the drip-line of any trees in or adjacent to the project site or additional off-site easements and right-of-ways.

12.6. Manufacturer's Directions: Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer.

13. INSPECTION AND TESTING OF MATERIALS

13.1. 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 approved by the OWNER. The cost of such inspection and testing shall be paid by the CONTRACTOR. The CONTRACTOR shall furnish evidence satisfactory to the OWNER that the material and finished articles have passed the required tests prior to the incorporation of such materials and finished articles in the work. The CONTRACTOR shall promptly segregate and remove rejected material and finished articles from the site of the work.

14. SAMPLES

14.1. All samples called for in the Specifications or required by the ENGINEER shall be furnished by the CONTRACTOR and shall be submitted to the ENGINEER for his review. Samples shall be furnished so as not to delay fabrication, allowing the ENGINEER reasonable time for the consideration of the samples submitted.

14.1.1. Samples for Tests: CONTRACTOR shall furnish such samples of material as may be required for examination and test. All samples of materials for tests shall be taken according to standard methods or as provided in the Contract Documents.

14.1.2. CONTRACTOR's Guaranty: All samples shall be submitted by the CONTRACTOR with a covering letter indicating that such samples are recommended by the CONTRACTOR for the service intended and that the CONTRACTOR's Guaranty will fully apply.

14.1.3. All materials, equipment and workmanship shall be in accordance with samples guaranteed by the CONTRACTOR and reviewed by the ENGINEER.

15. SHOP DRAWINGS

15.1. The CONTRACTOR shall provide shop drawings, setting schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the Drawings, Specifications or the ENGINEER's instructions. Deviations from the Drawings and Specifications shall be called to the attention of the ENGINEER at the time of the first submission of shop drawings and other drawings for consideration. The ENGINEER's review of any drawings shall not release the CONTRACTOR from responsibility for such deviations. Shop drawings shall be submitted according to a schedule prepared jointly by the CONTRACTOR and the ENGINEER.

15.1.1. CONTRACTOR's Certification: When submitted for the ENGINEER's review, shop drawings shall bear the CONTRACTOR's certification that he has reviewed, checked and approved the shop drawings, that they are in harmony with the requirements of the Project and with the provisions of the Contract Documents, and that he has verified all field measurements and construction criteria, materials, catalog numbers and similar data. CONTRACTOR shall also certify that the work represented by the shop drawings is recommended by the CONTRACTOR and the CONTRACTOR's Guaranty will fully apply.

16. GUARANTY

16.1. The CONTRACTOR shall guarantee all materials and equipment furnished and work performed for a period of one year from the date of final payment of the work.

16.1.1. The Performance and Indemnity Bond shall remain in full force and effect during the guaranty period.

16.1.2. Correction of faulty work after final payment shall be as provided in Paragraph 41.

17. INSURANCE

17.1. The CONTRACTOR shall not commence any work until he obtains, at his own expense, all required insurance. Such insurance must have the approval of the OWNER as to the limit, form, and amount. The CONTRACTOR will not permit any Subcontractor to commence work on this project until such Subcontractor has complied with the same insurance requirements.

Types: The types of insurance the CONTRACTOR is required to obtain and maintain for the full period of the Contract will be: Workmen's Compensation Insurance, Automobile and Comprehensive General Liability Insurance as detailed in the following portions of this specification.

17.1.2. Evidence: As evidence of specified insurance coverage, the OWNER may, in lieu of actual policies, accept certificates issued by the insurance carrier showing such policies in force for the specified period. Each policy or certificate will bear an endorsement or statement waiving right of cancellation or reduction in coverage within ten days' notice in writing to be delivered by registered mail to the OWNER. Should any policy be cancelled before final payment by the OWNER to the CONTRACTOR and the CONTRACTOR fails immediately to procure other insurance as specified, the OWNER reserves the right to procure such insurance and to deduct the cost thereof from any sum due the CONTRACTOR under this Contract.

17.1.3. Adequacy of Performance: Any insurance bearing on adequacy of performance shall be maintained after completion of the project for the full guaranty period. Should such insurance be cancelled before the end of the guaranty period and the CONTRACTOR fails immediately to procure other insurance as specified, the OWNER reserves the right to procure such insurance and to charge the cost thereof to the CONTRACTOR.

17.1.4. Payment of Damages: Nothing contained in these insurance requirements is to be construed as limiting the extent of the CONTRACTOR's responsibility for payment of damages resulting from his operations under this Contract.

18. WORKMEN'S COMPENSATION INSURANCE

18.1. Before the Agreement between the OWNER and the CONTRACTOR is entered into, the CONTRACTOR shall submit written evidence that he and all Subcontractors have obtained, for the period of the Contract, full Workman's Compensation Insurance coverage for all persons whom they employ or may employ in carrying out the work under this Contract. This insurance shall be in strict accordance with the requirements and statutory limits of the most current and applicable South Carolina Workman's Compensation Insurance Laws.

19. COMPREHENSIVE GENERAL LIABILITY AND AUTOMOBILE INSURANCE

19.1. Before commencement of the work, the CONTRACTOR shall submit written evidence that he and all his Subcontractors have obtained for the period of the Contract, full Comprehensive General Liability Insurance and automobile coverage. This coverage shall provide for both bodily injury and property damage.

19.1.1. Comprehensive General Liability Insurance shall include coverage for bodily injury, sickness or disease, death, or property damage arising directly or indirectly out of or in connection with the performance of work under this Contract, and shall provide for a combined single limit of not less than one million (\$1,000,000) dollars for all damages arising out of bodily injury, sickness or disease, death, or property damage for each occurrence.

19.1.2. Automobile insurance shall include coverage for bodily injury and property damage arising directly or indirectly out of or in connection with the performance of work under this Contract, and shall provide for a combined single limit of not less than one million (\$1,000,000) dollars for all damages arising out of bodily injury or property damage for each occurrence.

19.1.3. Indemnity: Included in such insurance will be contractual coverage sufficiently broad to insure the provisions of Paragraph 20.

20. INDEMNITY

20.1. The CONTRACTOR shall hold harmless, indemnify and defend the OWNER, it's successors and assigns, the ENGINEER, their consultants, and each of their officers and employees and agents, from any and all liability claims, losses or damage arising or alleged to arise from the performance of the work described herein, but not including the sole negligence of the OWNER or the ENGINEER.

21. PATENTS AND ROYALTIES

21.1. If any design, device, material or process covered by letters, patent or copyright is used by the CONTRACTOR, he shall provide for such use by legal agreement with the OWNER of the patent or a duly authorized licensee of such OWNER, and shall save harmless the OWNER, and the ENGINEER, from any and all loss or expense on account thereof, including its use by the OWNER.

22. PERMITS

22.1. All permits and licenses necessary for the prosecution of the work shall be secured and paid for by the CONTRACTOR. This shall include all Business Licenses required by the Local Government.

23. LAWS TO BE OBSERVED

23.1. The CONTRACTOR shall give all notices and comply with all Federal, State and local laws, ordinances and regulations in any manner affecting the conduct of the work, and all such orders and decrees as exist, or may be enacted by bodies or tribunals having any jurisdiction or authority over the work, and shall indemnify and save harmless the OWNER its successors and assigns, the ENGINEER, their consultants, and each of their officers and employees and agents against any claim or liability arising from, or based on, the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees.

24. WARNING SIGNS AND BARRICADES

24.1. The CONTRACTOR shall provide adequate signs, barricades, and watchmen and take all necessary precautions for the protection of the work and the safety of the public.

25. PUBLIC CONVENIENCE

25.1. The CONTRACTOR shall at all times so conduct his work as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to ensure the protection of persons and property. No road or street shall be closed to the public except with permission of the proper authorities. Fire hydrants on or adjacent to the work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to ensure the use of sidewalks and the proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches, which shall not be obstructed.

26. SAFETY

26.1. The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property affected directly or indirectly by his operation during the performance of the work. This requirement will not be limited to normal working hours but will apply continuously 24 hours per day until written acceptance of the work by the OWNER and shall not be limited to normal working hours.

26.2. The ENGINEER's construction reviews of the CONTRACTOR's performance is not intended to include review of the adequacy of the CONTRACTOR's safety measures in, on, or near the construction site.

27. NOTICE TO PROCEED

27.1. Following the execution of the Contract by the OWNER and the CONTRACTOR, written Notice to Proceed with the work shall be given by the OWNER to the CONTRACTOR. The CONTRACTOR shall begin and shall prosecute the work regularly and uninterruptedly thereafter (except as provided for herein) with such force as to secure the completion of the work within the Contract Time.

28. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

28.1. It is hereby understood and mutually agreed, by and between the CONTRACTOR and the OWNER, that the date of beginning and the time for completion as specified in the Contract 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.

28.2. The CONTRACTOR agrees that said work shall proceed regularly, diligently, and uninterruptedly at such rate of progress as will ensure 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 the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

28.3. If said CONTRACTOR shall neglect, fail, or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the OWNER, 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 the work.

28.4. 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 the OWNER would in such event sustain, and said amount is agreed to be the amount of damages which the OWNER would sustain and said amount shall be retained from time to time by the OWNER from current periodical estimates.

28.5. 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 under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. PROVIDED, that the CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to the following:

28.5.1. Any preference, priority or allocation order duly issued by the Federal or State Government.

28.5.2. 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, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, flood, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather; and

28.5.3. Any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsection 28.5.1. and 28.5.2. of this article:

PROVIDED, FURTHER, that the CONTRACTOR shall, within 10 days from the beginning of such delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the contract, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter, and grant such extension of time as the OWNER shall deem equitable and just.

29. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

29.1. Immediately after execution and delivery of the contract, and before the first partial payment is made, the CONTRACTOR shall deliver to the OWNER an estimated construction progress schedule in a form satisfactory to the OWNER, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents.

30. EXTENSION OF CONTRACT TIME

30.1. A delay beyond the CONTRACTOR's control occasioned by an Act of God, by act or omission on the part of the OWNER or by strikes, lockouts, fire, etc., may entitle the CONTRACTOR to any extension of time in which to complete the work as agreed by the OWNER, provided, however, that the CONTRACTOR shall immediately give written notice to the OWNER of the cause of such delay.

30.2. Act of God shall mean an earthquake, flood, cyclone, or other cataclysmic phenomenon. Storms of normal intensity for the locality shall not be construed as an Act of God and no reparation shall be made to the CONTRACTOR for damages to the work resulting there from.

31. EXTRA WORK

31.1. New and unforeseen items of work found to be necessary, and which cannot be covered by any item or combination of items for which there is a Contract price, shall be classed as Extra Work. It shall be the responsibility of the CONTRACTOR to identify necessary work items classed as Extra Work and for which no previous contract price has been arranged and advise the ENGINEER and the OWNER of the need for the aforesaid necessary Extra Work. The CONTRACTOR shall do such Extra Work and furnish such materials as may be required for the proper completion or construction of the whole work contemplated, upon written order from the OWNER as approved by the ENGINEER. In the absence of such written order, no claim for Extra Work shall be considered.

31.2. Extra Work shall be performed in accordance with these Contract Documents where applicable and work not covered by such shall be done in accordance with the best construction practice and in a workmanlike manner.

31.3. Extra Work required in an emergency to protect life and property shall be performed by the CONTRACTOR as required.

32. CLEANING UP

32.1. The CONTRACTOR shall at all times, keep the premises clean and shall remove from the OWNER's property, and from all public and private property, temporary structures, rubbish, waste materials resulting from his operation or caused by his employees, and all surplus materials, leaving the site smooth, clean and true to line and grade and in the same condition as existed prior to the work performed by the CONTRACTOR or his Subcontractors and as approved by the OWNER. Failure to maintain a clean project site or to complete clean-up of the project site at the completion of the work shall be cause for the OWNER to perform the necessary clean-up and the costs thereof shall be charged to the CONTRACTOR.

33. REQUEST FOR PAYMENT

33.1. The CONTRACTOR may submit to the OWNER periodically, but not more than once each month, a Request for Payment for work done and materials delivered to and stored on the site. The CONTRACTOR shall furnish the OWNER all reasonable information required for obtaining the necessary data relative to the progress and execution of the work. Payment for materials stored on the site will be conditioned upon evidence submitted to establish the OWNER's title to such materials. Each Request for Payment shall be computed on the basis of work completed on all items listed in the Detailed Breakdown of Contract (or on unit prices, as the case may be), less 10 percent to be retained until final completion and acceptance of the work and less previous payments.

34. ENGINEER'S ACTION ON REQUEST FOR PAYMENT

34.1. All CONTRACTOR's Requests for Payment shall be referred to the ENGINEER for his review and, within a reasonable period, the ENGINEER shall:

34.1.1. Recommend payment by the OWNER of the Request for Payment as submitted.

34.1.2. Recommend payment by the OWNER of such other amount as the ENGINEER shall consider as due the CONTRACTOR, informing the OWNER and the CONTRACTOR in writing of his reasons for recommending the amended amount.

34.1.3. Recommend to the OWNER that payment of the Request for Payment be withheld, informing the CONTRACTOR and the OWNER in writing of his reasons, for so recommending.

35. OWNER'S ACTION ON REQUEST FOR PAYMENT

35.1. Within thirty days after receipt of a Request for Payment from the CONTRACTOR, the OWNER shall:

35.1.1. Pay the Request for Payment as recommended by the ENGINEER.

35.1.2. Pay such other amount, in accordance with Paragraph 36, as he shall decide is due the CONTRACTOR, informing the CONTRACTOR and the ENGINEER in writing of this reasons for paying the amended amount.

35.1.3. Withhold payment in accordance with Paragraph 36, informing the CONTRACTOR and the ENGINEER of his reasons for withholding payment.

36. OWNER'S RIGHT TO WITHHOLD PAYMENT OF A REQUEST FOR PAYMENT

36.1. The OWNER may withhold payment, in whole or in part, of a Request for Payment to the extent necessary to protect himself from loss on account of any of the following:

36.1.1. Defective work.

36.1.2. Evidence indicating the probable filing of claims by other parties against the CONTRACTOR that may adversely affect the OWNER.

36.1.3. Failure of the CONTRACTOR to make payments due to Subcontractors, material suppliers, or employees.

36.1.4. Damage to another CONTRACTOR.

37. PAYMENT FOR EXTRA WORK

37.1. Written notice of claims for payment for Extra Work shall be given by the CONTRACTOR within ten days after receipt of instructions from the OWNER to proceed with the Extra Work and also before any work is commenced, except in emergency endangering life or property. No claim shall be valid unless so made. In all cases, the CONTRACTOR's itemized estimate sheets showing all labor and material shall be submitted to the OWNER. The OWNER's order for Extra Work shall specify any extension of the Contract Time and one of the following methods of payment:

37.1.1. Unit prices or combination of unit prices which formed the basis of the original Contract.

37.1.2. A lump sum based on the CONTRACTOR's estimate and accepted by the OWNER.

37.1.3. Actual cost plus 10 percent for overhead and profit. Actual costs are defined as follows:

37.1.3.1. Labor costs, including time of foreman while engaged directly upon extra work.

37.1.3.2. Labor insurance and taxes.

37.1.3.3. Materials and supplies actually used on the work.

37.1.3.4. Associated General Contractors of America standard rental rates on each piece of equipment having a value in excess of \$50.00. Equipment and tools of lesser value are considered "small tools" and, as such, are considered to be part of overhead.

38. ACCEPTANCE AND FINAL PAYMENT

38.1. When the CONTRACTOR has completed the work in accordance with the terms of the Contract Documents, he shall certify completion of the work to the OWNER and submit a final Request for Payment, which shall be the Contract Amount plus all approved additions, less all approved deductions and less previous payments made. The CONTRACTOR shall furnish evidence that he has fully paid all debts for labor, materials, and equipment incurred in connection with the work, and upon acceptance by the OWNER, the OWNER will release the CONTRACTOR except as to the conditions of the Performance and Indemnity Bond and the Labor and Material Payment Bond, any legal rights of the OWNER, required guaranties, and Correction of Faulty Work after Final Payment, and will pay the CONTRACTOR's final Request of Payment. The CONTRACTOR shall allow sufficient time between the time of completion of the work and approval of the final Request for Payment for the ENGINEER to assemble and check the necessary data.

38.1.1. Release of Liens: The CONTRACTOR shall deliver to the OWNER a complete release of all liens arising out of this Contract before the retained percentage or before the final Request for Payment is paid. If any liens remains unsatisfied after all payments are made, the CONTRACTOR shall refund to the OWNER such amounts as the OWNER may have been compelled to pay in discharging such liens including all costs and a reasonable attorney's fees.

39. OWNER'S RIGHT TO TERMINATE AGREEMENT

39.1. The OWNER shall have the right to terminate his agreement with the CONTRACTOR after giving ten days' written notice of termination to the CONTRACTOR in the event of any default by the CONTRACTOR.

39.1.1 Default by CONTRACTOR: It shall be considered a default by the CONTRACTOR whenever he shall:

39.1.1.1. Declare bankruptcy, become insolvent, or assign his assets for the benefit of his creditors.

39.1.1.2. Disregard or violate provisions of the Contract Documents or fail to prosecute the work according to the agreed Schedule of Completion, including extensions thereof.

39.1.1.3. Fail to provide a qualified superintendent, competent workmen or Subcontractors, or proper materials, or fail to make prompt payment thereof.

39.1.2. Completion by the OWNER: In the event of termination of the Agreement by the OWNER because of default by the CONTRACTOR, the OWNER may take possession of the work and of all materials and equipment thereon and may finish the work by whatever method and means he may select.

40. TERMINATION OF CONTRACTOR'S RESPONSIBILITY

40.1. The Contract will be considered complete when all work has been finished and the project accepted in writing by the OWNER. The CONTRACTOR's responsibility shall then cease, except as set forth in his Performance and Indemnity Bond, as provided in Paragraph 16, Guaranty, and as provided in Paragraph 41, Correction of Faulty Work after Final Payment.

41 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

41.1. The making of the final payment by the OWNER to the CONTRACTOR shall not relieve the CONTRACTOR of responsibility for faulty materials or workmanship. The CONTRACTOR shall promptly replace any such defects, as determined by the ENGINEER, discovered within two years from the date of final payment of the work.

42. INSPECTION

42.1. The authorized representatives of the ENGINEER and OWNER shall be permitted to inspect all materials, workmanship, and other relevant project records and data. Materials and workmanship will be subject to the approval of the OWNER and/or his representative.

43. CORRECTION OF WORK

43.1. All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction shall be, at all times and places, subject to the inspection of the ENGINEER who shall be the final judge of the quality and suitability of the work, materials, process of manufacturer, and methods of construction for the purposes for which they are used. Should they fail to meet his approval, they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the CONTRACTOR at his own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the ENGINEER, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract hereunder shall be reduced by such amount as in the judgment of the ENGINEER shall be equitable.

44. SUBSURFACE CONDITIONS FOUND DIFFERENT

44.1. Should the CONTRACTOR encounter subsurface and/or latent conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the ENGINEER of such conditions before they are disturbed. The ENGINEER will thereupon promptly investigate the conditions, and if he finds and so determines that they materially differ from those shown on the Plans or indicated in the Specifications, he will at once make such changes in the Plans and/or Specifications, as he may find necessary. Any increase or decrease of cost resulting from such changes are to be adjusted in the manner provided in Paragraph 37 of the General Conditions.

45. CONTRACT SECURITY

45.1. The CONTRACTOR shall furnish a Performance Indemnity Bond and Payment Bond (forms attached) in an amount at least equal to 100% of the contract prices as security for the faithful performance of this Contract, as the security for the payment of all persons performing labor on the project under this Contract, and furnishing materials in connection with this Contract. The Performance and Indemnity Bond and the Payment Bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by the OWNER.

46. DISPUTE RESOLUTION

46.1 OWNER and CONTRACTOR agree to negotiate all disputes between them in good faith prior to exercising their rights under law.

46.2 Any claim, dispute or other matter in question arising from or related to this Agreement or the performance or breach thereof, which cannot be resolved through direct discussions between parties shall be subject to mediation as a condition precedent to the institution of legal or equitable proceedings by either party, and only after both parties have completed the mediation process.

46.3 Through mediation, CONTRACTOR and OWNER shall endeavor to resolve claims, disputes, or other matters in question between them by mediation in an informal process in which a third-party

mediator facilitates discussion between the parties. The parties may designate a mediator mutually agreeable to both CONTRACTOR and OWNER to conduct the mediation. If the parties are unable to agree upon a mediator, mediation shall be conducted in accordance with the mediation provision of the South Carolina Circuit Court Alternative Dispute Resolution Rules. The mediation shall be conducted in York County, South Carolina. A request for mediation shall be filed in writing with the other party to this Agreement, and legal or equitable proceedings shall be stayed pending mediation for a period of sixty (60) days from the date of the request for mediation is filed, unless stayed for a longer period of time by agreement of the parties or court order. The cost of a third-party mediator will be shared equally by the parties.

46.4 If the parties reach an agreement during the mediation process, they shall reduce the agreement to writing and sign it with their attorneys, if any. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

46.5 In any action or proceedings to enforce or interpret any provision of this Agreement, or where any provision herein is validity asserted as a defense, each Party shall bear its own attorney fees, costs, and expenses.

END OF SECTION

SPECIAL CONDITIONS

Project Phasing

The fire station must remain open at all times:

Concrete pad removal, replacement and required cure time must be phased so that one of the two buildings remains accessible at all times. Coordinate truck relocations with FD representative.

The access road along the side of the station provides truck access to the rear lot and is a shared access to neighboring residents. Access road must remain accessible at all time.

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SECTION 013223 – PROJECT SURVEY AND LAYOUT**PART 1 - GENERAL****1.1 SUMMARY**

- A. The Contractor shall provide construction stakeout sufficient to construct the proposed improvements in accordance with the approved construction plans.
- B. The Owner shall provide the following prior to the commencement of any stake-out services:
 - 1. Construction site drawings and associated electronic files.
 - 2. Copies of the topographic survey that the approved site plans have been based on. The topographic survey shall include at least one benchmark, which shall be used for vertical control; and,
 - 3. Copies of the boundary survey that the site plans have been based on.
- C. Contractor shall verify existing grades prior to performing work under this section. If existing grades are at variance with the drawings, notify the Owner and receive instructions prior to proceeding. No additional compensation will be considered resulting from grade variances once work has commenced.
- D. The Contractor may retain the services of a registered land surveyor licensed in the state where the project is located.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. The Contractor shall supply all stakeout materials.

2.2 EQUIPMENT

- A. The Contractor shall supply all equipment necessary to accomplish the work.

PART 3 - EXECUTION**3.1 PERFORMANCE STANDARDS**

- A. Storm Layout
 - 1. Centerline of pipes shall be staked with no offset. Owner to approve stake line prior to pipe placement.
- B. Parking lot and Access Drive Layout
 - 1. Grade stakes shall be located at proposed edge of pavement for new driveway radius. Grades elevations shall be at finished grade. Owner to approve radius stake line prior to paving.
- C. Limits of Disturbance
 - 1. Clearing limits are limited to project area as drawn on plan.
- D. Grade Stakes
 - 1. Stakes will be provided by Contractor as described above. Grade elevations shall be to finished grade.

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3.2 CONTRACTOR VERIFICATION

- A. Contractor will field verify the utility location, size and invert elevations at points of connection, prior to construction and protect them from damage.
 - 1. Finished subgrades shall be verified by the Contractor to ensure proper elevation and conditions for construction above subgrade;
 - 2. Protect subgrade from excessive construction traffic and wheel loading including concrete and dump trucks; and,
- B. Advise Owner of any discrepancies between plans and field layout.

3.3 QUALITY ASSURANCE

- A. The Contractor is responsible for construction staking. Contractor shall provide contraction stakes as described above with owner approval prior to commencing work.
- B. All costs related to re-staking due to construction or Contractor's work resulting in destruction or movement of stakes, shall be paid for by the Contractor and at no additional expense to the Owner.

END OF SECTION 013223

SECTION 015713 - EROSION AND SEDIMENTATION CONTROL**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventative measures.
- D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.
- E. Work under this section shall include, but not limited to, installation and maintenance of temporary and permanent erosion control measures, slope protection, and stabilization measures. This work shall include all labor, materials, and equipment necessary to meet all applicable standards and requirements of authorities having jurisdiction.

1.2 REFERENCE STANDARDS

- A. York County and SCDHEC Erosion Control Standard details and specification as applicable.
- B. South Carolina DHEC Storm Water Management Best Management Practice (BMP) Handbook, 2005.
- C. EPA - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.

1.3 PERFORMANCE REQUIREMENTS

- A. Comply with all requirements of U.S. Environmental Protection Agency for erosion and sedimentation control, as specified for the National Pollutant Discharge Elimination System (NPDES), Phases I and II, under requirements for the 2012 Construction General Permit (CGP).
- B. Comply with requirements of State of South Carolina DHEC Storm Water Management BMP Handbook, 2005.
- C. The Contractor shall provide all temporary erosion control measures, or as directed by the Owner, Owner's Representative, or authorities having jurisdiction for the duration of the contract. Additional measures may be necessary and shall be implemented to address intermediate stages of work and/or any conditions that may develop during construction at no cost to the Owner.
- D. Temporary and permanent erosion and sediment control measures shall at all times be satisfactory to the Owner and Owner's Representative. Owner's Representative shall inform the Contractor of unsatisfactory construction procedures and/or conditions if observed. If the unsatisfactory procedures and conditions are not responded to and corrected within 48 hours, the Owner's Representative may suspend the performance of any or all other construction until the Unsatisfactory condition(s) has been corrected. Such suspension shall not be the basis of any claim by the Contractor for additional compensation nor for an extension of time to complete the work. Any complaints, fines, etc. relating to ineffective erosion and sediment control shall be the sole responsibility of the Contractor.
- E. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained.
 - a. Owner will obtain permits and pay for securities required by authority having jurisdiction.

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- b. Owner shall withhold payment to Contractor equivalent to all fines resulting from non-compliance with applicable regulations.
 - F. Erosion On-Site: Minimize wind, water, and vehicular erosion of soil on the project site due to construction activities.
 - a. Control movement of sediment and soil from temporary soil stockpiles.
 - b. Prevent development of ruts due to equipment and vehicular traffic.
 - c. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to the Owner.
 - G. Erosion Off-Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
 - a. Prevent windblown soil from leaving the project site.
 - b. Prevent tracking of mud onto public roads outside of the site.
 - c. Prevent mud and sediment from flowing onto sidewalks and pavements.
 - d. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to the Owner.
 - H. Sedimentation of Waterways On-Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm drainage systems, and sanitary sewers.
 - a. If sedimentation occurs, install or correct preventative measures immediately at no cost to the Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 - I. Sedimentation of Waterways Off-Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm drainage systems, and sanitary sewers.
 - a. If sedimentation occurs, install or correct preventative measures immediately at no cost to the Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 - J. Open Water: Prevent standing water that could become stagnant.
 - K. Maintenance: Maintain temporary preventative measures until permanent measures have been established.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Mulch
 - a. Straw or hay: dry and free from mold damage and noxious weeds.
 - b. Wood waste, chips, or bark.
 - c. Erosion control blankets or netting.
- B. Grass Seed for Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons. Refer to Contract Drawings for recommended seeding schedule.
- C. Grass Seed for Permanent Cover: See Section 329200.
- D. Rip Rap – Per SCDOT Specifications.
- E. Temporary Erosion and Sediment Control Best Management Practices (BMPs) – Refer to York County and SCDHEC Standard Details and Specifications

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

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- B. Contractor shall provide owner a submittal describing the proposed erosion control measures as they apply to current site conditions. Any deviation from the drawings must be submitted for approval to the Engineer in writing at least 72 hours prior to commencing that work.

3.2 PREPARATION

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.
- B. Notify authority having jurisdiction, Owner, and Owner's Representative in writing a minimum of 48 hours prior to commencing land disturbing activities.

3.3 SCOPE OF PREVENTATIVE MEASURES

- A. Silt Fence: Install silt fence along downhill perimeter edge of disturbed areas, stockpiles, and areas shown on Contract Drawings.
- B. Rock Ditch Check: Install rock check dams in steeply sloped swales, swales where adequate vegetation cannot be established, small open channels, within drainage ditches to reduce the velocity of concentrated flows, and as shown on the Contract Drawings.
- C. Temporary Stockpile – To be placed in areas as shown on the Contract Drawings or as directed by Owner. If stockpile(s) is to remain for more than 14 days, temporary stabilization measures shall be implemented. Silt fence shall extend around the entire perimeter or if stockpile is located on/near a slope, the silt fence shall extend along the contours of the downhill perimeter edge.
- D. Temporary Seeding, Permanent Seeding, and Mulching – See Section 329200.
- E. Concrete Washout – As shown on the Contract Drawings or approved equivalent

3.4 INSTALLATION

- A. Install temporary and permanent BMPs in accordance with plans and details provided on the Contract Drawings.

3.5 INSPECTION & MAINTENANCE

- A. Contractor shall be responsible for regular inspection and maintenance of BMPs in accordance with the requirements provided in the plans and details on the Contract Drawings.

3.6 CLEANUP

- A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Owner.
- B. Cleanout temporary sediment control structures that are to remain as permanent measures.
- C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION 015713

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Acoustical joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Warranties.

1.4 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant Neutral-Curing Silicone Joint Sealant SS-1: ASTM C 920.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. [Dow Corning Corporation.](#)
 - b. [GE Advanced Materials - Silicones.](#)
 - c. [Pecora Corporation.](#)
 - d. [Sika Corporation; Construction Products Division.](#)
 - e. [Tremco Incorporated.](#)
 2. Type: Single component (S).
 3. Grade: nonsag (NS).
 4. Class: 25.
 5. Uses Related to Exposure: Nontraffic (NT).

2.3 URETHANE JOINT SEALANTS

- A. Urethane Joint Sealant US 1: ASTM C 920.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. [BASF Building Systems](#).
 - b. [Bostik, Inc.](#)
 - c. [Pecora Corporation](#).
 - d. [Sika Corporation; Construction Products Division](#).
 - e. [Tremco Incorporated](#).
2. Type: Single component (S).
3. Grade: nonsag (NS).
4. Class: 50.
5. Uses Related to Exposure: Nontraffic (NT).

B. Urethane Joint Sealant US 2: ASTM C920

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Pecora Corporation.
 - b. Sika Corporation.
 - c. Tremco Incorporated.
2. Type: Single component (S).
3. Grade: Self-Leveling.
4. Class: 25.
5. Uses Related to Exposure: Traffic.

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant LS-1: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. [BASF Building Systems](#).
 - b. [Bostik, Inc.](#)
 - c. [Pecora Corporation](#).
 - d. [Tremco Incorporated](#).

2.5 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant AS-1: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. [Pecora Corporation](#).

b. USG Corporation.

2.6 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces US-2.
 - 1. Joint Locations:

- a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Other joints as indicated.
 2. Joint Sealant: Urethane.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces US-1.
 1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Control and expansion joints in unit masonry.
 - c. Joints in exterior insulation and finish systems.
 - d. Joints between metal panels.
 - e. Joints between different materials listed above.
 - f. Perimeter joints between materials listed above and frames of door, windows, and louvers.
 - g. Control and expansion joints in ceilings and other overhead surfaces.
 - h. Other joints as indicated.
 2. Joint Sealant: Urethane.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces US-2.
 1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Control and expansion joints in tile flooring.
 2. Joint Sealant: Urethane.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces US-1.
 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of interior unit masonry, walls, and partitions.
 - e. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
 - f. Other joints as indicated.
 2. Joint Sealant: Urethane
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces SS-1.
 1. Joint Sealant Location:

-
- a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated.
2. Joint Sealant: Silicone.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontrafficsurfaces AS-1.
1. Joint Location:
 - a. Acoustical joints where indicated.
 - b. Other joints as indicated.
 2. Joint Sealant: Acoustical.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

SECTION 311000 - SITE CLEARING**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removal of existing debris.

1.2 PRE-CONSTRUCTION CONFERENCE

- A. Pre-Construction Conference: Contractor shall conduct a pre-construction conference at the project site with Owner, Owner's Representatives, Engineer, authorities having jurisdiction, and Contractor's sub-contractors.

1.3 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from The Project site.

1.4 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises at location indicated by the Owner.
- C. Utility Locator Service: Notify utility locator service, South Carolina 811, a minimum of 72 hours before site clearing.
- D. Contractor shall verify existing grades prior to performing work under this section. If existing grades are at a variance with the Contract Drawings, the Contractor shall notify the Owner's

Representatives in writing and receive instructions prior to proceeding. No additional compensation will be considered resulting from grade variances once work has commenced.

- E. Do not commence site clearing operations until temporary erosion and sedimentation control and tree protection measures are in place.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction. If disturbed or destroyed, benchmarks and control points shall be replaced in original position by a South Carolina licensed surveyor at no additional cost to the Owner.
- B. Protect areas outside limits of disturbance from encroachment by construction personnel or equipment regardless of property ownership. Access shall be by specific, written permission or easement only.
- C. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract. Do not proceed with work on adjoining property until directed by Owner's Representatives.
- D. Provide temporary erosion and sedimentation control measures in accordance with Section 015713 prior to any site clearing.
- E. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation within the limits of disturbance to permit installation of new construction.
 - 1. Remove surface rocks, tree stumps, roots, and other vegetation and debris within the limits of disturbance.
 - 2. Carefully and cleanly cut roots and branches of trees indicated to remain, where such root or branches obstruct new construction.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density as indicated in Section 312000, Earth Moving.

3.3 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to full depth encountered in areas indicted to be graded in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile sufficient topsoil material to facilitate seeding and landscaping. Stockpile away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Protect stockpiles in accordance with Section 015713 Erosion and Sedimentation Control.
 - 1. Remove subsoil and other nonsoil materials from the stripped topsoil to be stockpiled by an approved screening method, including but not limited to, clay lumps, gravel, and other objects more than 2 inches and diameter, trash, debris, weeds, roots, and other waste materials.
- D. Topsoil not to be reused on-site shall be removed from the site and legally disposed of off the Owner's property.

3.4 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.5 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000 – EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and landscaping.
2. Excavating and backfilling for buildings and structures.
3. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the sub-base course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Earth Excavation: Any excavation not classified as Rock or Unsuitable Material.

F. Fill: Soil materials used to raise existing grades.

G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

H. Sub-base Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

I. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below sub-base, drainage fill, drainage course, or topsoil materials.

J. Unsuitable Materials: Excavated materials, debris, man-made or fabricated materials, concrete spoil, organic, soft, expansive, or unstable matter as directed by the Owner.

K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 QUALITY ASSURANCE

- A. An independent testing agency qualified according to ASTM E 329 and ASTM D 3740 to conduct soils materials and testing, selected and paid by the Owner, shall be retained to perform required construction tests, laboratory tests, and construction inspections. Owner provided services do not relieve the Contractor from his responsibility to complete the work in accordance with the Contract Documents.
- B. Visual field confirmation and density testing of subgrade preparation and fill placement shall be performed by Owner's Independent Testing Firm as part of the construction testing requirements.
- C. The Owner's Independent Testing Firm shall prepare field reports that indicate compaction test location, elevation data, testing results, and acceptability. The Owner and Contractor shall be provided with written copies of the results with 24 hours of the time test was performed.
- D. All costs associated with re-inspection, due to non-compliance with contract requirements, shall be paid for by the Contractor at no additional expense to the Owner. The Owner reserves the right to direct any inspection that is deemed necessary. Contractor shall provide free access to the site for inspection services.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Use soils recommended as recommended by the Owner's Independent Testing Firm. Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory and Unsatisfactory Soils: Satisfactory and unsatisfactory soils shall be as identified in the field by the Owner's Independent Testing Firm.
- C. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Re-route surface water run-off away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.4 SUBGRADE INSPECTION

- A. Notify Owner and Owner's Independent Testing Firm when excavations have reached required subgrade.
- B. If Independent Testing Firm determines that unsatisfactory soil is present, continue excavation and replaced with compacted backfill or fill material as directed.

3.5 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.6 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, subdrainage, damp proofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring, bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.7 STORM UTILITY DRAINAGE TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.

- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings.
- C. Initial Backfill: Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch any dimension, to a height of 12 inches over the pipe.
 - 1. Carefully compact initial backfills under pipe haunches and compact evenly up on both sides and along the full length of piping to avoid damage or displacement of piping. Coordinate backfilling with utility testing.
- D. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.

3.8 SOIL FILL

- A. Follow Independent Testing Firm's written recommendations for material to use for soil fill.
- B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- C. Place soil fill on subgrades free of mud, frost, snow or ice.

3.9 SOIL MOISTURE CONTROL

- A. Use Independent Testing Firm's written recommendations for moisture control. If written recommendations are unavailable for the project, Contractor shall follow standards below.
- B. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Use Independent Testing Firm's written recommendations for compaction. If written recommendations are unavailable for the project, Contractor shall follow standards below.
- B. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- C. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- D. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698.

1. Under structures, building slabs, steps, and pavements, scarify and re-compact top 18 inches of existing subgrade and each layer of backfill or fill soil material at 100 percent.
2. Under structures, building slabs, steps, and pavements, compact subgrades below top 18 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
3. Under walkways, scarify and re-compact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
4. Under turf or unpaved areas, scarify and re-compact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
5. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Finish Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1/2 inch.
 3. Pavements: Plus or minus 1/2 inch.

3.12 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified Independent Testing Firm to perform tests and inspections.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM, D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies (unless otherwise determined by Independent Testing Firm).
 1. Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test forevery 200 sq. ft. or less per slab, but in no case fewer than 3 tests.

3.13 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Owner's Independent Testing Firm, reshape and re-compact.

- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus materials and waste materials, including trash, and other debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold milling of existing asphalt pavement.
2. Hot-mix asphalt paving.
3. Hot-mix asphalt overlay.

B. Related Requirements:

1. Section 312000 "Earth Moving" for subgrade preparation, fill material, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.

1.2 SUBMITTALS

- A. Job-Mix Designs: Certification of each job mix proposed for the Work.
- B. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.
- C. Traffic maintenance and Work Area Protection to follow SCDOT MUTCD manual for the maintenance and protection of traffic during operations within or immediately adjacent to existing roadways open to vehicular traffic.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the South Carolina Department of Transportation (SCDOT).
- B. Asphalt paving materials and installation shall conform to the requirements of the latest edition of the South Carolina Department of Transportation (SCDOT) Standard Specifications for Highway Construction.

1.4 TESTING AND INSPECTION

- A. Owner's testing agency shall observe the asphalt placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. Coarse Aggregate: ASTM D 692/D 692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

2.2 ASPHALT MATERIALS

- A. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

2.3 MIXES

- A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes complying with the requirements of the South Carolina Department of Transportation (SCDOT) Standard specifications for Highway Construction.

PART 3 - EXECUTION

3.1 COLD MILLING

- A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.
 - 1. Mill to a depth of 1.5 inch.
 - 2. Patch surface depressions deeper than 1.5 inch after milling, before wearing course is laid.

3.2 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
- B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.3 PLACING HOT-MIX ASPHALT

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Spread mix at a minimum temperature of 250 deg F.
 - 2. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to

remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

- D. Hot mix asphalt shall be placed in accordance with the requirements of the SCDOT Standard specifications for Highway Construction.

3.4 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
1. Clean contact surfaces and apply tack coat to joints.
 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 4. Construct transverse joints as required by the South Carolina Department of Transportation Standard Specifications for Highway Construction.

3.5 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the density provided in the South Carolina Department of Transportation Standard Specifications for Highway Construction.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 INSTALLATION TOLERANCES

- A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
1. Surface Course: Plus 1/4 inch, no minus.

- B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
- 1.
 2. Surface Course: 1/8 inch
 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Owner shall engage a qualified testing agency to perform tests and inspections.
- B. Replace and compact hot-mix asphalt where core tests were taken.
- C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.8 WASTE HANDLING

- A. General: Handle asphalt-paving waste according to approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216

SECTION 321313 - CONCRETE PAVING**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes Concrete Paving, including the following:
 - 1. Sidewalks
 - 2. Concrete Pads

1.2 SUBMITTALS

- A. Provide certification that all materials meet South Carolina Department of Transportation (SCDOT) standard for the class of concrete required.

1.3 JOB CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects.
 - 1. Use flexible spring steel forms or laminated boards to form radius bends as required.
 - 2. Coat forms with a nonstaining form release agent that will not discolor or deface surface of concrete.
- B. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A 185.
- C. Concrete Materials: Comply with requirements of applicable Division 3 sections for concrete materials, admixtures, bonding materials, curing materials, and others as required.
- D. Expansion Joint Materials: Comply with requirements of applicable Division 7 sections for preformed expansion joint fillers and sealers.
- E. Antispalling Compound: Combination of boiled linseed oil and mineral spirits, complying with AASHTO M-233.
- F. Liquid Membrane Forming and Sealing Curing Compound: Comply with South Carolina Department of Transportation Standard Specifications for Highway Construction.

2.2 CONCRETE MIX, DESIGN, AND TESTING

- A. Comply with requirements of applicable Division 3 sections for concrete mix design, sampling and testing, and quality control OR South Carolina Department of Transportation Standard Specifications for Highway Construction whichever is more stringent.
- B. Design mix to produce normal-weight concrete consisting of Portland cement, aggregate, water-reducing or high-range water reducing admixture (super-plasticizer), air-entraining admixture, and water to produce the following properties:
 - 1. Comply with the requirements of the South Carolina Department of Transportation Standard Specifications for Highway Construction unless otherwise indicated.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Remove loose material from compacted sub-base surface immediately before placing concrete.
- B. Proof-roll prepared sub-base surface to check for unstable areas and need for additional compaction. Do not begin paving work until such conditions have been corrected and are ready to receive paving.

3.2 FORM CONSTRUCTION

- A. Set forms to required grades and lines, braced and secured. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
- B. Check completed formwork for grade and alignment to following tolerances:
 - 1. Tops of forms not more than 1/8 inch in 10 feet.
 - 2. Vertical face on longitudinal axis, not more than 1/4 inches in 10 feet.
- C. Clean forms after each use and coat with form release agent as required to ensure separation from concrete without damage.

3.3 REINFORCEMENT

- A. Locate, place and support reinforcement as specified in Division 3 sections, unless otherwise indicated.

3.4 CONCRETE PLACEMENT

- A. General: Comply with requirements of applicable Division 3 sections for mixing and placing concrete or SCDOT Standard Specifications for Highway Construction whichever is more stringent.
- B. Do not place concrete until sub-base and forms have been checked for line and grade. Moisten sub-base if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

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- C. Place concrete by methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.
 - D. Deposit and spread concrete in a continuous operation between transverse joints as far as possible. If interrupted for more than ½ hour, place a construction joint.
 - E. Fabricated Bar Mats: Keep mats clean and free from excessive rust, and handle units to keep them flat and free of distortions. Straighten bends, kinks and other irregularities or replace units as required before placement. Set mats for a minimum 2-inch overlap to adjacent mats.
 - F. Place concrete in 2 operations; strike off initial pour for entire width of placement and to the required depth below finished surface. Lay fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.
 - G. Remove and replace portions of bottom layer of concrete that have been placed more than 15 minutes without being covered by top layer or use bonding agent if acceptable to Architect.

3.5 JOINTS

- A. General: Construct expansion, weakened-plane (contraction), and construction joints to line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the centerline, unless otherwise indicated.
- B. Weakened-Plane (contraction) Joints: Provide weakened-plane (contraction) joints, sectioning concrete into areas as shown on drawings. Construct weakened-plane joints for a depth equal to at least ¼ concrete thickness, as follows:
 - 1. Tooled Joints: Form weakened-plane joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer.
 - 2. Sawed Joints: Form weakened-plane joints with powered saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut joints into hardened concrete as soon as surface will not be torn, abraded, or otherwise damaged by cutting action.
 - 3. Inserts: Use embedded strips of metal or sealed wood to form weakened-plane joints. Set strips into plastic concrete and carefully remove strips after concrete has hardened.
- C. Construction Joints: Place construction joints at end of placements and at locations where placement operations are stopped for more than ½ hour, except where such placements terminate at expansion joints.
 - 1. Construct joints as indicated or, if not indicated, use standard metal keyway-section forms.
- D. Expansion Joints: Provide premolded joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks, and other fixed objects, unless otherwise indicated.
- E. Locate expansion joints at 20 feet o.c. for each pavement lane unless otherwise indicated.

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- F. Extend joint fillers full width and depth of joint, not less than ½ inch or more than 1 inch below finished surface where joint sealer is indicated. If no joint sealer, place top of joint filler flush with finished concrete surface.
 - G. Provide joint fillers in one-piece lengths for full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together.
 - H. Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.
 - I. Fillers and sealants: comply with requirements of applicable Division 7 sections for preparation of joints, materials, installation, and performance.
 - J. Scoring patterns:
 - 1. Concrete sidewalk shall be scored in 5' intervals.
 - 2. Concrete pads scoring to be determined in field.

3.6 CONCRETE FINISHING

- A. After striking-off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture.
- B. After floating, test surface for trueness with a 10-ft. straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous smooth finish.
- C. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to ½-inch radius, unless otherwise indicated. Eliminate tool marks on concrete surface.
- D. After completion of floating and when excess moisture or surface sheen has disappeared, complete troweling and finish surface as follows:
 - 1. Broom finish by drawing a fine hair broom across concrete surface perpendicular to the line of traffic. Repeat operation if required to provide a fine line texture acceptable to Engineer.
- E. Do not remove forms for 24 hours after concrete has been replaced. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Engineer.

3.7 CURING

- A. Protect and cure finished concrete paving in compliance with applicable requirements of Division 3 sections. Use membrane-forming curing and sealing compound or approved moist-curing methods.

3.8 REPAIRS AND PROTECTIONS

- A. Repair or replace cracked, broken, or defective concrete curbs and curb and gutter, as directed by Engineer.

- B. Replace cracked, broken, or defective concrete sidewalks.
- C. Repair or replace cracked, broken, or defective concrete pavement, as directed by Engineer.
- D. Drill test cores where directed by Engineer when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement concrete bonded to pavement with epoxy adhesive.
- E. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- F. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just before final inspection.

END OF SECTION 321313

SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes painted markings applied to asphalt and concrete pavement.

1.2 SUBMITTALS

- A. Product Data and written confirmation that the following materials are included on SCDOT's list of approved construction materials:
 - 1. Vehicle parking markings paint
 - 2. Fire Truck pad markings paint

PART 2 - PRODUCTS

2.1 MARKING PAINT

- A. Paint shall conform to the requirements of the SCDOT Standard Specifications for Highway Construction and Federal Specification TT-P-1952. Color shall be yellow unless otherwise indicated.

2.2 PAINT APPLICATOR

- A. Provide a hand-operated push-type applicator machine of a type commonly used for application of paint to pavement surfaces. Paint applicator machine shall be acceptable for marking Small Street and parking areas. Applicator machine shall be equipped with the necessary paint tanks and spraying nozzles and shall be capable of applying paint uniformly at coverage specified.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION AND PAVEMENT MARKING

- A. Apply parking lot markings only when the ambient temperature is above 50°F and less than 95°F, unless otherwise approved.
- B. Do not apply parking lot marking paint until layout, colors, and placement have been verified with Engineer.
- C. Allow paving to cure for a minimum of 7 days before applying pavement marking.
- D. Sweep and clean surface to eliminate loose material and dust.
- E. Remove existing parking lot markings, residual curing compounds, and other coating adhering to the pavement with scrapers, wire brushes, water blasting, sandblasting, or mechanical abrasion as

required. Areas of existing pavement affected by oil or grease shall be scrubbed with an approved chemical and rinsed thoroughly. Seal oil-soaked areas with shellac or primer after cleaning.

- F. Pavement surfaces shall be dry and clean prior to painting. Parking lot markings shall not be applied within 24 hours following rain or other inclement weather or when rain is imminent.

3.2 APPLICATION OF PAVEMENT MARKING

- A. Apply paint in conformance with the requirements of the SCDOT Standard Specifications for Highway Construction.
- B. Lay out lines and markings to the width and length as indicated. All parking space lines shall be 4 inches wide.
- C. Apply paint with an approved paint applicator.
- D. Apply paint at manufacturer recommended rates to provide 15 mil wet thickness.

END OF SECTION 321723

SECTION 323223 - SEGMENTAL RETAINING WALLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes segmental retaining walls (SRW) with manufacturers recommended reinforcement.

1.2 SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each color and texture of concrete unit specified.
- C. Delegated-Design Submittal: Provide manufacturer installation recommendations.

1.3 QUALITY ASSURANCE

- A. Pre-Approval: The retaining wall contractor and SRW material supplier shall be pre-approved by the Owner prior to the commencement of Work.

PART 2 - PRODUCTS

2.1 SEGMENTAL RETAINING WALL UNITS

- A. Concrete Units: ASTM C 1372, Normal Weight, units shall not differ in height more than plus or minus 1/16 inch from specified dimension.
- B. Color: Owner selection from standard color samples
- C. Shape and Texture: Provide units with split face beveled textured.

PART 3 - SRW DESIGN CRITERIA

3.1 GENERAL

- A. Retaining walls shall be designed in accordance with the recommendations of the NCMA Design Manual for Segmental Retaining Walls (Current Edition).
- B. The design shall consider the internal stability of the reinforced soil mass.
- C. External stability, including sliding, overturning, and bearing, as well as global stability shall be evaluated by the designer.

3.2 SOIL STRENGTH PARAMETERS

- A. The walls shall be designed using appropriate soil parameters based on the site and construction conditions. These properties should be considered by the wall design engineer for the reinforced, retained, and foundation soils, as well as for evaluation of temporary slope stability of the cut slope behind the walls, where applicable.

3.3 SURCHARGE LOADING

- A. Surcharge loads such as roadways, parking lots, buildings, construction equipment, etc. shall be incorporated into the design as determined to be necessary by the design engineer, Owner, or Owner's Engineer.

PART 4 - EXECUTION

4.1 FIELD QUALITY CONTROL

- A. The Owner and/or the Owner's Engineer will review submittals for materials, design, and qualifications.
- B. The Owner shall retain, at his cost, an Independent Testing Firm to perform inspection and testing, which would include:
1. Foundation: Evaluation of subgrades for verification of the design contact pressures prior to fill and SRW unit placement;
 2. Fill Placement: Compaction testing for density and moisture and evaluation backfill material;
 3. SRW unit and geosynthetic reinforcement placement: Inspect for compliance with wall design drawings.
 4. Drainage stone and pipes: Evaluation of material types and placement locations for compliance with the wall design drawings.
- C. The above field inspection and testing does not relieve the Contractor of his responsibility to meet the more stringent of the design drawings, manufacturer types and placement locations for compliance with wall design drawings.

END OF SECTION 323223

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary and Permanent Seeding
2. Hydro seeding
3. Sodding

1.2 DEFINITIONS

- A. Finished Grade: Elevation of finished surface of planting soil.
- B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- E. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- F. Subgrade: surface or elevation of subsoil remaining after excavation is complete or top surface of a fill or backfill before planting soil is placed.
- G. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.

1.3 SUBMITTALS

- A. Product Data: For each type of product used.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and

percentage of purity, germination, and weed seed. Include year of production and date of packaging.

- C. Product Certificates: For soil amendments and fertilizers, provide by manufacturer.
- D. Product Certificates: For sod, provide by manufacturer.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful lawn establishment.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.

1.6 PROJECT CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from Substantial Completion.
 - 1. Spring Planting: February 1st – April 15th
 - 2. Fall Planting: August 25th – October 25th
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: State-certified seed of grass species as listed below:
 - 1. Quality: Seed of grass species as listed below, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
 - 2. Full Sun: Bermudagrass (*Cynodon dactylon*).
 - 3. Full Sun: Kentucky bluegrass (*Poa pratensis*), a minimum of three cultivars.
 - 4. Sun and Partial Shade: Proportioned by weight as follows:
 - a. 50 percent Kentucky bluegrass (*Poa Pratensis*)
 - b. 30 percent chewings red fescue (*Festuca rubra* variety)

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- c. 10 percent perennial ryegrass (*Lolium perenne*)
 - d. 10 percent redtop (*Agrostis alba*)

5. Shade: Proportioned by weight as follows:

- a. 50 percent chewings red fescue (*Festuca rubra* variety)
- b. 35 percent rough bluegrass (*Poa trivialis*)
- c. 15 percent redtop (*Agrostis alba*)

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Turfgrass Species: TIFTUF Bermuda Sod.

2.3 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Provide lime in form of ground dolomitic limestone.
- B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and within a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through the No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Perlite: Horticultural perlite, soil amendment grade.
- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through the No. 50 sieve.
- G. Sand: Clean, washed, natural or manufactured, and free of toxic materials.
- H. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.

2.4 ORGANIC SOIL AMENDMENTS

- A. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
 - 1. Organic Matter Content: 50 to 60 percent by dry weight.
 - 2. Feedstock: Agricultural, food, or industrial residuals, biosolids, yard trimmings, or source-separated or compostable mixed solid waste

2.5 FERTILIZERS

- A. Superphosphate: Commercial, phosphate mixture, soluble, a minimum of 20 percent available phosphoric acid
- B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.6 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Sphagnum Peat Mulch: Partially decomposed sphagnum peat moss, finely divided or of granular texture, and with a pH range of 3.4 to 4.8.
- C. Muck Peat Mulch: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Fiber Mulch: Biodegradable, dyed wood, cellulose-fiber mulch; nontoxic and free of plant growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5

2.7 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and No-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

2.8 EROSION CONTROL MATERIALS

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- A. Erosion Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh as indicated on the Contract Drawings. Include manufacturer's recommended steel wire staple.

PART 3 - EXECUTION

3.1 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
 - 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 10 lb/1000 sq. ft.
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes not exceeding 3:1 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas.
 - 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
- E. Protect seeded areas with slopes 3:1 and steeper by installing erosion control blankets as shown and specified on the Contract Documents and per manufacturer's written instructions.
- F. Protect seeded areas from hot, dry weather or drying winds by applying planting soil within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch and roll surface smooth.

3.2 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
 - 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
 - 2. Apply slurry uniformly to all areas to be seed in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
 - 3. Apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre

3.3 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across slopes exceeding 1:3.
 - 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week afterplanting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2" below sod.

3.4 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Owner:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any and bare spots not exceeding 5 by 5 inches.

3.5 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity of the Work. Notify the Owner before each application is performed.
- B. Post Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already germinated weeds in accordance with manufacturer's written recommendations.

END OF SECTION 329200

SECTION 334100 - STORM UTILITY DRAINAGE PIPING**PART 1 - GENERAL****1.1 SUMMARY**

- A. Work under this section consists of providing all labor, materials, tools, equipment, shop drawings, and supervision necessary and required to install the storm drainage systems, including but not limited to, piping, fittings, structures, bedding, and backfilling as shown on the Contract Drawings and as specified within the Contract Documents.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 PROJECT RECORD DOCUMENTS

- A. Accurately record as-built locations of pipe runs, connections, catch basins, inlets, cleanouts, top elevations and invert elevations.
- B. Identify and describe unexpected variations of subsurface conditions and location of utilities encountered.

1.4 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Owner no fewer than five days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Owner's written permission.
- B. Site Information: Perform site survey, research public utility records, and verify existing utility locations. Verify that storm drainage system piping may be installed in compliance with the original design and referenced standards.
 - 1. Locate existing storm drainage system piping and structures that are to be abandoned and closed.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

- A. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76.
 - 1. Tongue-and-groove ends and sealant joints with ASTM C 990 bitumen or butyl-rubbersealant.
 - 2. Class III

2.3 MISCELLANEOUS

- A. Stone Rip-Rap: Shall meet SCDOT specifications and be installed per requirements shown on the Contract Drawings.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall install all drainage structures and pipe in the locations shown on the Contract Drawings. Pipe shall be of the types and sizes specified on the drawings and shall be laid accurately to line and grade. Structures shall be accurately located and properly oriented.
- B. Excavation and Backfill – Section 312000 – Earth Moving
- C. Storage and Handling of Pipe – All pipe shall be protected against impact, shock and free fall, and only equipment of sufficient capacity and proper design shall be used in the handling of the pipe. Storage of pipe on the project shall be in accordance with the pipe manufacturer's recommendations.
- D. Damage to Pipe
 - 1. Pipe which is defective from any cause, including damage by handling, and determined by the Owner to be unacceptable for installation, shall be replaced at no cost to the Owner.
- E. Manholes, catch basins, and drain inlets shall be constructed as soon as the pipe laying reaches the locations of the structures. Should the Contractor continue to lay the pipe without making provisions for completion of the structures, the Owner shall have the authority to stop work until the structure is completed.
- F. Any structure, which is incorrectly located or oriented improperly, shall be removed and re-built in its proper location, alignment, and orientation at the Contractor's expense.

3.2 BEDDING

- A. Comply with Section 312000 – Earth Moving

3.2 PIPE INSTALLATION

A. Laying Pipe

1. Lay pipe on prepared subgrade starting at the downgrade end according to line and grade with the necessary drainage structures, fittings, bends, and appurtenances as shown on the Contract Drawings. Pipes with bell/spigot connections shall be laid with the bell or groove ends upgrade with the spigot or tongue fully inserted. Reinforced concrete pipe shall be installed in accordance with ASTM A798. Pipe Sections shall be firmly joined together with appropriate gaskets or sealants.

3.3 PROTECTION AND CLEANING

- A. Contractor shall maintain all pipe installations and drainage structures in a condition such that they will function continuously and shall be kept clean of silt, debris, and other foreign matter from the pipes and drainage structures until the project is accepted.

3.4 FINAL INSPECTION

- A. Upon completion of the work and before final acceptance by the Owner, the entire drainage system shall be subject to a final inspection in the presence of the Owner and/or Site Engineer. The work shall not be considered complete until all requirements for line, grade, cleanliness, and workmanship have been completed.

END OF SECTION 334100