

Subertown Road / Gary Street Sidewalk Project CDBG Project # 4-CE-22-009



NEWBERRY COUNTY SOUTH CAROLINA

Bid No. 2026-01

Newberry County
South Carolina

Construction Specifications

Engineer Project Number: 1192



Set #

September 2026

INTENTIONALLY BLANK

TABLE OF CONTENTS

SECTION

TITLE

GENERAL

01105	Invitation to Bid
-----	Newberry County Instructions, General Provisions, and General Conditions
01110	Information for Bidders
01140	Bid
01142	Bid Bond
01210	Agreement
-----	Certificate of Acknowledgement, for Agreement
01212	Performance Bond
01214	Payment Bond
-----	Certificate of Acknowledgement, for Contract Bond
-----	Notice of Award
-----	Notice to Proceed
01230	General Conditions
01232	Supplemental Conditions
-----	CDBG Contract Special Provisions, Revised 10/2024
01250	Measurement and Payment

DIVISION 2 - SITE WORK

02050	Demolition and Removal
02110	Clearing and Grubbing
02140	Dewatering
02200	Earthwork
02210	Unclassified Excavation & Grading
02220	Excavation and Backfill
02231	Subgrade
02235	Macadam Base Course
02270	Erosion Control
02271	Engineering Fabrics
02277	Temporary Silt Fence
02511	Bituminous Pavements
02523	Concrete Sidewalk & Driveway

02527	Concrete Curb & Gutter
02575	Paving Repair & Resurfacing
02616	Pavement Removal & Replacement
02721	Drainage Structures & Inlets
02722	Drainage Pipe & Culverts
02820	Grassing
02933	Seeding & Mulching
02995	Clean Up

DIVISION 3 - CONCRETE

03100	Concrete Form Work
03200	Concrete Reinforcement
03300	Cast-In Place Concrete

DIVISION 5 - METALS

05720	Decorative Metal Railings
-------	---------------------------

MISCELLANEOUS

-----	Report of Subsurface Exploration and Engineering Evaluation
-----	SCDOT Encroachment Permit
-----	Voluntary Donation of Property Easement for Construction
Appendix A	Davis-Bacon Wage Determination – Highway SC20260040
Appendix B	<u>Section 3 Forms:</u> Information Sheet for Contractors/Business Concerns Business Concern Certification Form Targeted Section 3 Worker Self-Certification Form Labor Hours Tracking Form
Appendix C	<u>Other Required Forms:</u> Contractor Illegal Immigration Certifications Debarment Certification

SECTION 01105

INVITATION FOR BIDS

PROJECT: Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01

OWNER: Newberry County
P.O. Box 156
Newberry, SC 29108

RECEIPT OF BIDS: Separate sealed bids for the construction of the above referenced project will be received by Newberry County at, attention Crystal Waldrop, Purchasing Director, located at P.O. Box 156, Newberry, SC 29108, **October 29, 2026 at 2:00 PM**. The envelope should be clearly labeled with the project information as well as the text "SEALED BID" in a clearly legible position.

PROJECT DESCRIPTION: The project consists of pedestrian improvements that shall include but not be limited to demolition, the installation of concrete sidewalks, asphalt patching and repair, pour in place retaining walls, metal railing, curbing, pavement marking, seeding, and installation of drainage infrastructure. The project scope consists of furnishing all materials, equipment, labor, and means necessary to complete the project as per plans and specifications. Prior experience, qualifications, and product certification will be required.

PRE-BID MEETING: A Non-Mandatory Pre-bid meeting will be held at 1309 College Street, Newberry, SC 29108 on **October 8, 2026 at 10:00 AM**. The purpose of such meeting will be to review this project and to answer any questions regarding the project.

QUESTIONS:

All questions regarding this Project should be submitted to:

Crystal Waldrop
P.O. Box 156, Newberry, SC 29108 (803) 321-2100
E-mail: cwaldrop@newberrycounty.gov

Bid related questions will be accepted through **October 16, 2026 at 5:00 PM**.

The preference is that questions be submitted by email. The answers to all questions asked will be shared with all participants in the Bid process.

DOCUMENTS AVAILABLE: A non-refundable deposit of \$250.00 will be required to obtain a copy of Contract Documents, which can be requested from The LandPlan Group South, 1206 Scott Street, Columbia, SC 29201. Phone (803) 256-0562

Documents may be obtained in pdf format without cost. For a link to download, please email a request to Kimberly Shealy at admin@landplansouth.com.

This project is being funded in whole or in part by the Community Development Block Grant Program (CDBG). All federal CDBG requirements will apply to the contract. All contractors and subcontractors are required to be registered in the federal System for Award Management (SAM). Bidders on this work will be required to comply with the President's Executive Order No. 11246 & Order No. 11375 which prohibits discrimination in employment regarding race, creed, color, sex, or national origin. Bidders must comply with Title VI of the Civil Rights Act of 1964, the Davis-Bacon Act, the Anti-Kickback Act, the Contract Work Hours and Safety Standards Act, and 40 CFR 33.240.

Bidders must also make positive efforts to use small and minority-owned business and to offer employment, training and contracting opportunities in accordance with Section 3 of the Housing and Urban Development Act of 1968. Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract.

All bidders are advised that the application with cost estimate is available for review.

The owner reserves the right to waive any irregularities, or to reject any or all bids.

No bidder may withdraw his bid within 90 days after the actual date of the opening thereof.

“EQUAL EMPLOYMENT OPPORTUNITY”

(End of Section 01105)

**NEWBERRY COUNTY INSTRUCTIONS, GENERAL PROVISIONS,
AND GENERAL CONDITIONS**

INSTRUCTIONS TO BIDDERS

1. Only one copy of bid is required unless otherwise specified.
2. Bids, amendments thereto or withdrawal request must be received by the time advertised for bid openings to be timely filed. It is the vendor's sole responsibility to ensure that these documents are received by the purchasing office at the time indicated in the bid document.

**PLEASE NOTE THE VENDOR IS ULTIMATELY RESPONSIBLE
FOR VERIFYING THEY HAVE RECEIVED ANY/ALL ADDENDA
PRIOR TO THE BID OPENING.**

3. When specifications or descriptive papers are submitted with the bid, enter bidder's name thereon.
4. Submit your signed bid on the bidder's schedule provided. Show bid number on envelope as instructed and the bid name or description. Newberry County accepts no responsibility for unmarked or improperly marked envelopes.
5. Bidders must clearly mark as "Confidential" each part of their bid which they consider to be proprietary information that could be exempt from disclosure under Section 30-4-40 Code of Laws of South Carolina, 1976, as amended, (also known as the Freedom of Information Act). The County reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the County or its agents for its determination in this regard.
6. By submission of a bid, you are guaranteeing that all goods and services meet the requirements of the solicitation during the contract period.
7. Tie bids will be resolved in accordance with the provisions of the Newberry County Purchasing Ordinance.
8. A copy of the bidder's W-9 shall be included in the submission.

GENERAL PROVISIONS

1. The County of Newberry reserves the right to reject any and all bids, to cancel a solicitation, and to waive any technicality if deemed to be in the best interest of the County.

2. Unit prices will govern over extended prices unless otherwise stated in this bid invitation.
3. **PROHIBITION OF GRATUITIES:** South Carolina law and the Newberry County Purchasing Ordinance prohibit the giving of anything of value in return for favors or other preferential treatment in the purchasing process. Bidders should govern themselves accordingly.
4. **BIDDERS QUALIFICATION:** Bidders must, upon request of the county, furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. The County reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein. Bidder determined to be irresponsible bidders are not allowed to bid to provide the County goods or services.
5. **BIDDERS RESPONSIBILITY:** Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this bid. It is expected that this will sometimes require on-site observation. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the contract.
6. **AWARD CRITERIA:** The contract shall be awarded to the lowest responsible and responsive bidder(s) whose bid meets the requirements and criteria set forth in the Invitation for Bid. Award may be made to one or a multiple of bidders, whichever deems to be in the best interest of the County, or unless otherwise stated on the bidder's schedule.
7. **WAIVER:** The County reserves the right to waive any Instruction to Bidders, General or Special Provisions, General or Special Conditions, or specifications deviation if deemed to be in the best interest of the county.
8. **COMPETITION:** This solicitation is intended to promote competition. If any language, specifications, terms and conditions, or any combination thereof restricts or limits the requirements in this solicitation to a single source, it shall be the responsibility of the interested vendor to notify the Purchasing Director on in writing within five (5) days prior to the opening date. The solicitation may or may not be changed but a review of such notification will be made prior to the award.
9. **REJECTION:** Ambiguous bids which are uncertain as to terms, delivery, quantity, or compliance with specifications may be rejected or otherwise disregarded if such action is in the best interest of the County.
10. **RIGHT TO PROTEST:** Any prospective bidder, offeror, or contractor, who is aggrieved in connection with the solicitation of a contract shall protest in writing to the Purchasing

Director within ten (10) calendar days of the date of issuance of the Invitation to Bid or other solicitation documents, whichever is applicable, or any amendment thereto, if the amendment is at issue. Any actual bidder, offeror, or contractor, who is aggrieved in connection with the intended award or award of a contract, shall protest in writing to the purchasing director within ten (10) calendar days of the notification of intent to award or statement of award.

11. **PROTEST PROCEDURE:** A protest shall be in writing, submitted to the purchasing director, and shall set forth the specific grounds of the protest with enough particularity to give notice to the issues to be decided.

GENERAL CONDITIONS

1. **DEFAULT:** In case of default by the contractor, the County reserves the right to purchase any or all items in default in the open market, charging the contractor with any excessive costs. Should such charge be assessed, no subsequent bids of the defaulting contractor will be considered until the assessed charge has been satisfied.
2. **NON-APPROPRIATION:** Any contract entered into by the County resulting from this bid invitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.
3. **HOLD HARMLESS AND INSURANCE:** The successful bidder shall indemnify and hold harmless the County of Newberry and all County officers, agents and employees against all suits or claims for personal injury or property damage resulting from, or arising from, the successful bidder's performance of the contract, as well as against any suits or claims of any character brought against the County or its agents or employees by reason of any claim of infringement of any patent, trade mark, trade dress, or copyright, including reimbursement to the County for all attorneys fees and court costs incurred by the County in defending itself or its agents or employees against any such claim or suit. **In addition, the successful bidder will maintain a public liability policy with minimum limits of \$500,000 per occurrence, or \$1,000,000 single limit, for damages arising from acts which occur during the contract period, with the County of Newberry named as an additional insured on the policy; the successful bidder shall also maintain workers compensation and vehicle liability insurance in the amounts required by statutory law.** Proof of such coverage will be provided upon demand or as otherwise provided in the bid specifications.

4. **CONTRACT ADMINISTRATION:** Questions or problems arising after award of this contract shall be directed to the Purchasing Director, P.O. Box 156, Newberry, SC 29108, or by calling 803-321-1420.
5. **FORCE MAJEURE:** The Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without fault or negligence of the contractor. Such causes may include, but are not restricted to acts of God or of a public enemy, acts of Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the contractor. If the failure to perform is caused by default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and subcontractor and without excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the contractor to meet the required delivery schedule.
6. **PUBLIC RELEASE:** Contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the User.
7. **QUALITY OF PRODUCT:** Unless otherwise indicated in this bid it is understood and agreed that any items offered or shipped on this bid shall be new, in first class condition, and without defect that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging and shipping to the specified destination in Newberry County. No demonstration models shall be sold as new, without prior written permission of the County.
8. **S.C. LAW CLAUSE:** Upon award of a contract under this bid, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business with this State. Notwithstanding the fact that applicable statutes may exempt or exclude the successful bidder from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed bid, the bidder agrees to subject himself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses, or fees levied by the State.
9. **ASSIGNMENT:** No contract or its Provisions may be assigned, sublet, or transferred without the written consent of the Purchasing Director.

10. **AFFIRMATIVE ACTION:** The successful bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment of the handicapped, and concerning the treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.
11. **DELIVERIES:** All deliveries shall be FOB Destination. It is agreed by the parties hereto that delivery by the contractor to the common carrier does not constitute delivery to the County. Any claim for loss or damage shall be between the contractor and the carrier.
12. **APPROPRIATE S.C. SALES TAXES, FEES AND PERMITS** shall be included in the Contractor's base bid for all materials. All fees, including permits and any removal or disposal of construction debris shall be included in the contractor's bid.
13. **PAYMENT TERMS:** Payment will be made when all work is completed and accepted by Newberry County as meeting the specifications here within.
14. **RETAINAGE:** A 10% retainage shall be retained by the County for every construction project, with the retainage to be payable, less any deductions allowed by contract, when the punch list is completed and the completed project accepted by the County's authorized representative.
15. **BID BOND:** For each bid in excess of \$25,000.00 each bidder will submit with their bid a bond in the amount of 5% of the total price of the bid submitted. The bid bonds will be returned to the unsuccessful bidders once the county accepts the lowest most responsive bid. If the most responsive bidder fails to perform the responsibility of the bid within 10 days of the award, then the bid bond will be forfeited to the county as liquidated damages and the next lowest bidder will be awarded the bid. Bid bonds may be in the form of a surety, a cashier's check or an unconditional letter of credit in favor of Newberry County issued by a commercial bank in South Carolina.
16. **PERFORMANCE AND PAYMENT BONDS:** The chosen vendor will be required to submit to the County both a performance bond and payment bond in the amount of 100% of the contract price before commencing with the work. **Both bonds will be issued from a surety company with an "A" minimum rating of performance as stated in the most current publication of Best Key Rating Guide, Property Liability.**
17. **Compliance with The South Carolina Illegal Immigration Act:** By submitting an offer, Bidder certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration act, 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Bidder and any subcontractor or sub-subcontractors; or (b) the

compliance with Title 8, Chapter 14 by Bidder and any subcontractors or sub-subcontractors. Pursuant to Section 8-14-60, “A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both”. Bidder agrees to include in any contracts with its subcontractors language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontract to comply with the applicable requirements of Title 8, Chapter 14.

(End Section NEWBERRY COUNTY)

SECTION 01110

INFORMATION FOR BIDDERS

1. RECEIPT OF BIDS: Bids will be received at the time and place specified in Section 01105 – Invitation to Bid.

2. LICENSES:

2.1. The attention of Bidders is directed to the provisions of the acts for licensing of General Contractors for the State of South Carolina and all requirements of such acts which have bearing upon this work shall be deemed a part of the Specifications as if written therein in full. The showing by the Contractor of his license number shall be deemed as the Contractor's representation that he is legally qualified to enter into the prescribed Contract for any/or all portions of the work included in his Bid.

2.2. All Bidders submitting a Bid shall have a currently valid "Contractor's License" and a "Bidder's License" for the State of South Carolina. These license numbers shall be shown on the bid form immediately below the signature identification and on the face of the sealed envelope containing the submitted Bid.

2.3. The successful Bidder will be required to obtain a business license from the Town of Whitmire prior to beginning work, if said Bidder does not have a current license.

2.4. Subcontractors who will be engaged by the General Contractor shall also hold the required licenses.

3. BID SECURITY: A 5% Bid Bond is required.

4. GUARANTY BONDS: Owner will determine if required prior to award but Bidder is to supply costs independent of Main Bid.

5. EXECUTION OF CONTRACT: The Owner, within ten (10) calendar days of receipt of acceptable Performance Bond, Payment Bond, and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Owner not execute the Agreement within such period, the Bidder may by written notice withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

6. POWER OF ATTORNEY FOR BONDS: Attorneys-in-fact who sign Bid Bonds or Performance Bonds or Payment Bonds must file with each Bond a certified and effective dated copy of their power of attorney.

7. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT: The successful Bidder, upon his failure or refusal to execute and deliver the Contract and Bonds required within ten (10) calendar days after he has received notice of the acceptance of his Bid,

shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid.

8. LAWS AND REGULATIONS: All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included as though herein written out in full.

9. NON-RESIDENT CONTRACTORS:

9.1. A Bidder, who is a non-resident contractor, shall be aware of Section 12-9-310, Article 3, of the South Carolina Income Tax Act of 1926, as amended. This article requires the Owner entering into a contract with a non-resident taxpayer, where such contract exceeds ten thousand dollars (\$10,000), to withhold two percent (2%) of each payment made to the non-resident.

9.2. The funds deducted from the payment made to the non-resident contractor are funds deemed to be held in trust for the State of South Carolina and will be reported by the Owner to the South Carolina Tax Commission. This Deduction is in addition to the retainage deductions specified in the General Conditions.

9.3. Modifications to the South Carolina Income Tax Act made January 1, 1993, allow a non-resident contractor to apply for an exemption or partial exemption from the two percent (2%) withholding rule. The non-resident contractor must complete a "Nonresident Taxpayer Request for Exemption Affidavit" (Form WH 303), "Nonresident Taxpayer Affidavit" (Form WH 302) and a subcontractors list. The South Carolina Tax Commission will make the determination and notify both contracting parties of the qualified exempt or partially exempt contracts.

9.4. All contracts for \$ 10,000.00 or more with non-residents which do not qualify for exemption will require the withholding of two percent (2%) from each payment as described above. The non-resident contractor may elect to post a surety bond with the South Carolina Tax Commission to eliminate this withholding requirement. The non-resident must complete and submit the Bond (Form L-2074) and a "Nonresident Taxpayer Affidavit" (Form WH 302) to the South Carolina Tax Commission for review and approval. The Owner must receive verification from the South Carolina Tax Commission if this deduction is to be waived.

9.5. The above referenced forms may be obtained from the South Carolina Tax Commission located at 301 Gervais Street, Columbia, South Carolina (mailing address - P.O. Box 125, Columbia, South Carolina 29214).

10. EXAMINATION OF DRAWINGS AND SPECIFICATIONS: Each Bidder shall carefully examine Drawings and Specifications and all Addenda or other revisions thereto and thoroughly familiarize himself with the detailed requirements thereof prior to submitting a Bid. If any Bidder is in doubt as to the true meaning of any part of the Drawings, Specifications, or other Documents, or if any error, discrepancy, conflict, or omission is noted, the Bidder should immediately contact the Engineer in writing and request clarification. The Engineer will clarify the intent of the Documents and/or correct such error, discrepancy, conflict, or omission, and will

notify all Bidders by Addendum in cases where the extent of work or the cost thereof will be appreciably affected. No allowance will be made after Bids are received for oversight by a Bidder.

11. EXAMINATION OF SITE: Each Bidder shall visit the site of proposed work and fully acquaint himself with conditions relating to construction and labor so he may fully understand facilities, difficulties, and restrictions attending execution of work under contract. By executing the Agreement, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the work is to be performed, and correlated his observations with the requirements of the Contract Documents.

12. INFORMATION NOT GUARANTEED:

12.1. All information given on the Drawings or in the Contract Documents relating to subsurface conditions, existing structures, location of utilities, sewer inverts, or other information on existing facilities, is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of the Bidders.

12.2. It is agreed and understood that the Owner does not warrant or guarantee that the conditions, pipes, or other structures encountered during construction will be the same as those indicated on the Drawings or in the Contract Documents. The Bidder must satisfy himself regarding the character, quantities, and conditions of the various materials and the work to be done.

12.3. It further is agreed and understood that the Bidder or the Contractor will not use any of the information made available to him or obtained in any examination made by him in any manner as a basis or ground of claim or demand of any nature, against the Owner or the Engineer, arising from or by reason of any variance which may exist between the information offered by the actual materials or structures encountered during the construction work, except as may otherwise be provided for in the Contract Documents.

12.4. If any work is performed by the Contractor, or any subcontractor, prior to adequate verification of applicable data, any resultant extra cost for adjustment of work necessary to conform to existing conditions, or damage to existing facilities, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

13. COMPLETE WORK REQUIRED:

13.1. The Drawings, Specifications, and all supplementary documents are essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to be cooperative, to describe and provide for a complete work. In case of discrepancy on the Drawings, figured dimensions shall govern. In case of omissions from the Specifications as to items of equipment and materials or quantities therefore, the Drawings shall govern.

13.2. It shall be the responsibility of the Bidder to call to the attention of the Engineer obvious omissions of such magnitude as to affect the strength, adequacy, function, completeness, or cost of any part of the work in ample time for amendment by Addendum prior to letting date.

14. ADDENDA AND INTERPRETATIONS:

14.1. No interpretation of the meaning of the Drawings, Specifications, or other Bid Documents will be made orally to any Bidder by the Engineers prior to award of the contract.

14.2. Every request for such interpretation should be in writing addressed to The LandPlan Group South, 1206 Scott Street, Columbia, SC 29201. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of Bids. Any and all such interpretation and any supplemental instruction will be made in the form of written Addenda to the Specifications.

14.3. Addenda will be emailed or delivered to all who are known to have received a complete set of Bidding Documents.

14.4. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

14.5. Every attempt will be made to issue addenda no later than four (4) days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids. Should Addenda be required closer to the bid date than the specified four (4) days, Bidders shall be notified via fax or telephone that an Addendum is being released. Bidders shall be responsible for making necessary arrangements to obtain late-issue Addenda. If an Addendum is technical in nature, no attempt shall be made to provide the changes verbally.

15. ABILITY AND EXPERIENCE OF BIDDER:

15.1. It is the purpose of the Owner not to award this Contract to any Bidder who does not furnish satisfactory evidence that he has the experience of successfully completing projects of this type and magnitude and that he has sufficient capital, equipment, plant, and personnel to enable him to prosecute the work successfully and to complete it in the time named.

15.2. The Owner may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.

15.3. The Owner prefers the successful Bidder to construct the work with his own directly employed personnel to an extent not less than fifty percent (50%) of the Contract Amount.

16. BIDS AND QUALIFICATIONS: Before a Bid is considered for award, the Bidder may be requested by the Engineer to submit a statement of facts in detail as to his previous experience

in performing similar or comparable work, and of his business and technical organization and financial resources and plant available to be used in performing the contemplated work.

17. TIME FOR COMPLETION: The Bidder must agree to commence work within the time stipulated in the Agreement. The Bidder also must agree to fully complete the project within the time stipulated in the Agreement.

18. LIQUIDATED DAMAGES: The Bidder must agree to pay as liquidated damages the amount set forth in the Agreement for each consecutive calendar day that the work is incomplete after the date of completion.

19. MODIFICATION OF BIDS: Bids may be modified in writing, executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids. Telegraphic modifications of the BID will not be allowed.

20. WITHDRAWAL OF BIDS:

20.1. Any Bidder may withdraw his Bid, either personally or by written request, at any time prior to the scheduled time for opening of Bids or authorized postponement thereof.

20.2. No Bidder may withdraw his Bid for a period of ninety (90) calendar days after the date set for the opening thereof, and all Bids shall be subject to acceptance by the Owner during this period.

21. IRREGULAR BIDS: A Bid will be considered irregular and may be rejected for any one of the following reasons:

21.1. If the Bid is on a form other than that furnished by the Owner; or if the form is altered or any part detached.

21.2. If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning.

21.3. If the Bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

21.4. If the Bid does not contain a price for each item listed.

21.5. If the Bid does not contain the aggregate of the Bid, obtained by adding the extended amounts of the various items, if applicable.

21.6. If the Bid contains obviously unbalanced bid prices.

21.7. If there is reason to believe that any Bidder is interested in more than one Bid on the same project or that there has been collusion among the Bidders.

22. DISQUALIFICATION OF BIDDERS: More than one Bid from an individual, a firm or partnership, a corporation or any association, under the same or different names, will not be considered. Reasonable grounds for believing that any Bidder is interested as a principal in more than one Bid for the work contemplated will cause the rejection of all Bids in which such Bidder is believed to be interested. Any or all Bids will be rejected if there is reason to believe that collusion exists among the Bidders. Contracts will be awarded only to responsible Bidders capable of performing the class of work contemplated within the time specified, and having sufficient resources and finances to carry on the work properly.

23. ACCEPTANCE OR REJECTION OF BIDS: The Owner reserves the right to reject any and all Bids when such rejection is in the interest of the Owner; to reject the Bid of a Bidder who has previously failed to perform properly or complete on time contracts of a similar nature; and to reject the Bid of a Bidder who is not, in the opinion of the Engineer, in a position to perform the Contract. The Owner also reserves the right to waive any informalities and technicalities in bidding. The Owner may also accept or reject any of the alternates that may be set forth on the Bid.

24. METHOD OF AWARD: Unless all Bids are rejected, the Contract will be awarded to the lowest responsive, responsible Bidder based on low bid or combination of low bid with alternates depending on which is in the best interest of the Owner. A responsive Bidder is defined as one whose Bid is complete and submitted in accordance with the Contract Documents without excisions, exceptions, special conditions or alternate bids (unless specifically requested in the bid form). A responsible Bidder is defined as one who is legally licensed to bid and perform work in the State of South Carolina, maintains a permanent place of business, has adequate plant equipment to complete the work properly and within the established time limit, has adequate financial status to meet his obligations contingent to the work, and is considered by the Owner and Engineer to be capable of performing the work in accordance with the Contract Documents.

25. NOTICE TO PROCEED: The Notice to Proceed will be issued within twenty (20) calendar days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period; the time may be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the twenty (20) calendar day period or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

26. ESTIMATED QUANTITIES: Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the Drawings and Specifications, including Addenda. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

27. COMPARISON OF BIDS: Bids will be compared on the basis of the prices stated in the Bid. In the event there is a discrepancy between the unit price and/or the computed total amount, the unit price shall govern.

28. WORK IN STATE AND CITY RIGHTS-OF-WAY: The Owner will obtain the necessary easements and permits for construction across both City, County, and State Highway rights-of-way. The Contractor shall abide by all rules, regulations, and requirements of these agencies in regard to construction under this contract, including the giving of notices, provisions for inspections, and employment of such methods of construction as may be required. Wherever these Specifications may be in conflict with the regulations or requirements of these agencies, such regulations shall govern and these Specifications shall be modified to such extent as necessary to conform to the said rules, regulations, and requirements. Wherever additional costs are incurred due to requirements of these agencies, such additional periods of maintenance, special features of construction, etc., all such costs shall be included in the prices bid. No additional compensation will be allowed for such costs after award of the Contract.

29. ITEMS AND INDETERMINATE ITEMS: The work to be done under this contract has been divided into items, and items having sub items to enable each Bidder to bid on the different portions of the work in accordance with his unit price estimate of their cost, and so that the actual quantity of work executed under each item, or sub item, may be paid for at the unit price bid for the particular item, or sub item, even though such quantity is greater or less than the estimated quantity stated in the Bid.

30. RIGHT TO INCREASE OR DECREASE THE AMOUNT OF WORK:

30.1. The work comprises approximately the quantities shown in the bid form which will be used as a basis for comparison of Bids and not for final estimate. The Owner does not, by expression or by implication, agree that the actual amount of work shall correspond with the estimated quantities.

30.2. The Owner reserves the right to increase or decrease the amount of work under the Contract to the extent of 25% of the work contemplated, at the unit prices quoted in the Bid.

31. FORM OF BID:

31.1. All Bids must be submitted on the blank bid form provided herein and must state the total price for which the Bidder will complete the work in accordance with the terms of the Contract Documents. All blank spaces must be filled in and there shall be no interlineations, alterations, or erasures.

31.2. The Bid must be signed manually by a principal or an officer duly authorized to make contracts. The Bidder's legal name must be fully stated and the name and title of the person signing must be typed below his signature.

32. SUBMITTING BIDS:

32.1. Each Bid must be submitted on the prescribed bid form. All blank spaces for bid prices must be filled in, in ink or typewritten, and the Bid must be fully completed and executed when submitted. Only one copy of the bid form is required.

32.2. Bidders are cautioned that it is the responsibility of each individual Bidder to assure that his Bid is in the possession of the responsible official or his designated alternate prior to the stated time and at the stated place of the bid opening. Owner is not responsible for Bids delayed by mail and/ or delivery services of any nature.

32.3. Each Bid must be submitted in an opaque sealed envelope, plainly marked on the outside, addressed and delivered as shown below. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the Owner at:

32.4.

Upper Left Hand Corner:

Bidder's Name

Bidder's Address

To: Newberry County
P.O. Box 156
Newberry, SC 29108

Attention: Crystal Waldrop,
Procurement Director

Lower Left Hand Corner:

Bid for Construction of: Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01

South Carolina General Contractor's License No. _____

Classification _____

Expiration Date _____

(End of Section 01110)

SECTION 01140

BID

TO: NEWBERRY COUNTY (hereinafter called "Owner")

FROM: _____

Phone - _____

of the City of _____ County of _____

and State of _____, hereinafter called "Bidder".

PROJECT: **Subertown Road/Gary Street Sidewalk Project**
 CDBG Project # 4-CE-22-009
 Bid No. 2026-01
 Newberry County
 P.O. Box 156
 Newberry, SC 29108

Gentlemen:

The Bidder, in compliance with your Advertisement for Bids for the construction of above-referenced project, having examined the Drawings and Specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein, and the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

The Bidder declares that he has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, and the difficulties attendant upon its execution, and that he has carefully read and examined the Drawings, the annexed proposed Agreement, and the Specifications and other Contract Documents therein referred to, and knows and understands the terms and provisions thereof.

Bidder understands that information relative to existing structures, apparent and latent conditions, and natural phenomena, as furnished to him on the Drawings, in the Contract Documents, or by the Owner or the Engineer, carries no guarantee expressed or implied as to its completeness or accuracy, and he has made due allowance therefore.

He further understands that the quantities of work tabulated in the Bid are only approximate and are subject to increase or decrease as deemed necessary to the performance of the work by the Engineer; and that these quantities as shown will be used in arriving at the total Contract Price and determination of the lowest Bidder.

TIME FOR COMPLETION AND LIQUIDATED DAMAGES: Bidder hereby agrees to commence work under this contract within 10 days of receipt of the Notice to Proceed and to fully complete the project within 120 consecutive calendar days thereafter.

Bidder also agrees to pay \$250/day as liquidated damages for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

ADDENDA: Bidder acknowledges receipt of the following Addenda:

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

SCHEDULE OF PRICES –
Subertown Road/Gary Street Sidewalk Project CDBG Project # 4-CE-22-009

Item	Description	Qty	Unit	Unit Price	Total Price
1	Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Demolition	1	LS		
4	Drainage Pipe				
	a) 15" RCP - Class III	8	LF		
	b) 18" RCP - Class III	160	LF		
	c) 24" RCP - Class III	16	LF		
	d) Pipe Connection to Existing Structure	1	EA		
	e) Concrete Flared End	3	EA		
5	Drop Inlets, Catch Basins, and Junction Boxes				
	a) Catch Basin - Type 1	1	EA		
	b) Catch Basin - Type 9	2	EA		
	c) 36"x36" Junction Box	4	EA		
	d) Adjust Existing Catch Basin Lid	1	EA		
	e) Convert Existing Catch Basin to Junction Box	1	EA		
6	Concrete Curb and Gutter				
	a) Barrier Cub and Gutter	780	LF		
	b) Transition Curb	6	LF		
	c) Concrete Sidewalk Retaining Curb	145	LF		
7	Concrete Paving				
	a) Concrete Sidewalk (4" Uniform)	1140	SY		
	b) Concrete Sidewalk (6" Uniform)	30	SY		
	c) Concrete Driveway (6" Uniform)	90	SY		
	d) Pedestrian Curb Ramp	40	SY		
	e) Detectable Warning Surface	120	SF		
8	Full Depth Asphalt Patch	30	SY		

Item	Description	Qty	Unit	Unit Price	Total Price
9	Pour in Place Concrete Wall				
	a) 8" Wide Wall	96	LF		
	b) 10" Wide Wall	315	LF		
10	36" Tall Metal Railing	303	LF		
11	Permanent Pavement Markings	1	LS		
12	Class A Rip Rap	10	Ton		

TOTAL PRICE, BID ITEMS 1-12, Inclusive \$ _____

Additions to work and deletions from work shall be paid in accordance with these unit prices.

The above unit prices shall include all labor, materials, de-watering, shoring, removal, overhead, profit, insurance, taxes, fees, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding. The Bidder agrees that this Bid shall be good and may not be withdrawn for a period of 90 calendar days after the scheduled closed time for receiving bids.

Upon receipt of written notice of the acceptance of this Bid, Bidder will execute the formal Agreement attached within 10 days, and deliver Surety Bonds as required by the General Conditions. The bid security attached in the sum of _____ (\$_____) is to become the property of the Owner in the event the Agreement and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.

Bid tabulations will be sent to all bidders via email and posted on the Newberry County website at <https://www.newberrycounty.gov/>.

Before the award of contract, any respondent may be required to show that they have necessary license, facilities, experience, ability, and financial resources to perform the work in a satisfactory manner. Respondents may be required to furnish the County with sworn statements and/or references as to their experience.

The undersigned declares that his firm is (delete those not applicable):

A corporation organized and existing under the laws of the State of _____.

A partnership consisting of _____.

The undersigned declares that the person or person signing this proposal is fully authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated hereinafter has any interest whatsoever in this proposal or the contract that may be entered into as a result thereof, and that in all respects the proposal is legal and fair, submitted in good faith, without collusion or fraud.

Respectfully Submitted:

(SEAL - if bid is by a
Corporation)

Contractor
By: _____

(Type/Print Name)

(Title)

(Street Address)

(City, State, Zip)

S.C. General Contractor's License No. _____

(End Section 01140)

INTENTIONALLY BLANK

KNOW ALL MEN BY THESE PRESENTS: that we, the undersigned _____
_____, as Principal, and _____, as Surety, are hereby held
and firmly bound unto _____, as OWNER, in the penal sum of
_____ for the payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this _____ day of _____, 2026.

The Condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain BID attached hereto and hereby made a part hereof, to enter
into a contract in writing, for the construction of:

Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01
Newberry, SC

NOW, THEREFORE,

- (a) If the said BID shall be rejected, or in the alternate,
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated. The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

By: _____

(SEAL)

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

(End of Section 01142)

SECTION 01210**AGREEMENT**

THIS AGREEMENT, made this _____ day of _____, 2026,
by and between _____ Newberry County _____,
acting herein through its _____,
(Title of Authorized Official)
hereinafter called "OWNER" and _____,
(Name of Contractor)
doing business as _____
(an Individual), (a Partnership) or (a Corporation)
of the Town of _____, County of _____, and
State of _____, hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR hereby agrees with the OWNER to commence and complete the construction described as follows:

**Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01
Newberry, SC**

hereinafter called the PROJECT.

2. The CONTRACTOR will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the NOTICE TO PROCEED and will fully complete the PROJECT within 120 consecutive calendar days unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS. The CONTRACTOR further agrees to pay, as liquidated damages, the sum of \$250.00 for each consecutive calendar day thereafter as hereinafter provided in the GENERAL CONDITIONS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of _____ or as shown in the Bid Schedule.

5. The term "CONTRACT DOCUMENTS" means and includes the following:

- A. Invitation for Bids
- B. Information for Bidders
- C. Bid
- D. Bid Bond
- E. Agreement
- F. General Conditions
- G. Supplemental Conditions
- H. Notice of Award
- I. Notice to Proceed
- J. Change Orders
- K. Drawings prepared by The LandPlan Group South, and listed in the Supplemental Conditions.
- L. Specifications prepared by The LandPlan Group South.
- M. Addenda

No. _____ Dated _____

No. _____ Dated _____

No. _____ Dated _____

No. _____ Dated _____

6. The OWNER agrees to pay the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding on all parties hereto and their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in three (3) counterparts, each of which shall be deemed an original, in the year and day first above written.

OWNER:

(SEAL)

By: _____

(Type or Print Name)

ATTEST:

(Title of Authorized Official)

(Secretary)

(Witness)

CONTRACTOR:

(SEAL)

By: _____

(Type or Print Name)

(Title)

(Street Address)

(City, State, Zip)

ATTEST:

(Secretary)

(Witness)

(End of Section 01210)

INTENTIONALLY BLANK

**CERTIFICATE OF ACKNOWLEDGEMENT OF CONTRACTOR
IF A CORPORATION**

FOR AGREEMENT

STATE OF _____

COUNTY OF _____

ON THIS _____ day of _____, 2026, before me

personally came _____, to me known, who being

by me duly sworn, did depose and say as follows:

That he resides at _____

and is the _____ of _____,
(Title of Officer) (Name of Corporation)

the Corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said Corporation; that the seal affixed to the foregoing instrument is such Corporate Seal and it was so affixed by order of the Board of Directors of said Corporation; and that by the like order he signed thereto his name and official designation.

By: _____

(Name) (Title)

(Notary Public) (Seal)

My commission expires: _____

INTENTIONALLY BLANK

SECTION 01212

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

_____, hereinafter called Principal and
(Corporation, Partnership or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____
in lawful money of the United States, for the payment of which sum well and truly to be made,
we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas the Principal entered into a
certain contract with the OWNER, dated the _____ day of _____, 2026, a copy
of which is hereto attached and made a part hereof for the construction of:

**Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01
Newberry, SC**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that 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 there under or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS. PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2026.

ATTEST:

Principal

By: _____

(Principal) Secretary

(Street Address)

(SEAL)

(City, State, Zip)

Witness as to Principal

(Street Address)

(City, State, Zip)

ATTEST:

Surety

(Surety) Secretary

Attorney-in-Fact

(SEAL)

(Street Address)

(City, State, Zip)

Witness as to Surety

(Street Address)

(City, State, Zip)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is a Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

(End of Section 01212)

INTENTIONALLY BLANK

SECTION 01214

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

_____, hereinafter called
(an Individual, (a Partnership), or (a Corporation)

Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____ 2026, copy of which is hereto attached and made a part hereof for the construction of:

Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01
Newberry, SC

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that 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 there under or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 2026.

ATTEST:

Principal

(Principal) Secretary

(SEAL) By: _____ (S)

(Street Address)

(City, State, Zip)

(Street Address)

(City, State, Zip)

ATTEST: _____
Surety

(Surety) Secretary By: _____
Attorney-in-Fact

(SEAL) _____
(Street Address)

(City, State, Zip)

Witness as to Surety

(Street Address)

(City, State, Zip)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

(End of Section 01214)

INTENTIONALLY BLANK

**CERTIFICATE OF ACKNOWLEDGEMENT OF CONTRACTOR
IF A CORPORATION**

FOR CONTRACT BONDS

STATE OF _____

COUNTY OF _____

ON THIS _____ day of _____, 2026 before me
personally came _____, to me known, who
being by me duly sworn, did depose and say as follows:

That he resides at _____

and is the _____ of _____,
(Title of Officer) (Name of Corporation)

the Corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said Corporation; that the seal affixed to the foregoing instrument is such Corporate Seal and it was so affixed by order of the Board of Directors of said Corporation; and that by the like order he signed thereto his name and official designation.

By: _____

(Name) (Title)

(Notary Public) (Seal)

My commission expires: _____

INTENTIONALLY BLANK

NOTICE OF AWARD

TO: _____

Date:

**PROJECT DESCRIPTION: Subertown Road/Gary Street Sidewalk Project
CDBG Project # 4-CE-22-009
Bid No. 2026-01**

The OWNER has considered the BID submitted by you on, _____ 2026, for the above described WORK.

You are hereby notified that your BID has been accepted for items in the amount of _____.

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 to 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 _____, 2026

Newberry County, SC
Owner

By: _____

Title

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby
acknowledged by _____

This the _____ day of _____, 2026

By _____

Title _____

Subertown Road/Gary Street
Sidewalk Project
CDBG Project # 4-CE-22-009

NOTICE OF AWARD

INTENTIONALLY BLANK

NOTICE TO PROCEED

TO: _____

Date: _____

Project: **Subertown Road/Gary Street Sidewalk Project**
CDBG Project # 4-CE-22-009
Bid No. 2026-01

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 2026, on or before _____, 2026, and you are to complete the WORK within 120 consecutive calendar days thereafter.

The date of completion of all WORK is therefore _____, 2026.

Owner Newberry County, SC

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby
acknowledged by _____

this the _____ day of _____, 2026

By _____

Title _____

INTENTIONALLY BLANK

1. GENERAL

1.1. THE CONTRACT DOCUMENTS: The Contract Documents consist of the Advertisement for Bids, Information for Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, Conditions of the Contract (General, Supplemental and Other Conditions), Drawings, Specifications, Addenda, Notice of Award, Notice to Proceed, and Change Orders.

1.2. CORRELATION AND INTENT OF DOCUMENTS:

1.2.1. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all.

1.2.2. The intent of the Drawings and Specifications is that the Contractor shall furnish all labor, supplies and materials, tools, machinery, equipment, transportation, supervision, temporary construction of any nature, and all other services, facilities and means necessary for the proper execution and completion of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner, and fully complete the work or improvement ready for use, occupancy and operation by the Owner.

1.2.3. Any mention in the Specifications or indication on the Drawings of articles, materials, methods or operations shall require the Contractor to furnish such item or service as if it was fully specified unless it is noted or specified as not in the contract. It is intended that all materials shall be new and best quality in every respect unless otherwise noted or specified. All workmanship, methods of assembly, and erection shall be first class in every respect.

1.3. CONFLICT OR INCONSISTENCY:

1.3.1. If there is any conflict or inconsistency between the provisions of the Supplemental Conditions and the provisions of the other Contract Documents, the provisions of the Supplemental Conditions shall prevail. If there is any conflict or inconsistency between the provisions of the General Conditions and the provisions of any of the Contract Documents other than the Supplemental Conditions, the provisions of the General Conditions shall prevail.

1.3.2. In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

1.3.3. In case of difference between small-scale and large-scale drawings, the large-scale drawings shall govern. Schedules on any contract drawing shall take precedence over conflicting information on that or any other contract drawing. On any of the drawings where a portion of the work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out shall apply also to all other like portions of the work. Where the word "similar" occurs on the drawings, it shall have a general meaning and not be interpreted as being identical, and all

details shall be worked out in relation to their location and their connection with other parts of the work.

1.3.4. Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Engineer, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

1.3.5. Should a conflict be discovered within the Contract Documents, the Contractor shall be deemed to have estimated the higher quality way of doing the Work unless he shall have asked for and obtained a decision in writing from the Engineer before entering into this Contract.

1.4. **ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS:** The Contractor may be furnished additional instructions and detail drawings, by the Engineer, as necessary to carry out the Work required by the Contract Documents. The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

1.5. **SPECIFICATION HEADINGS:**

1.5.1. For convenience of reference, these Specifications are divided into various Divisions, Sections, Subsections and Paragraphs. The titles of these headings shall not be taken as a correct or complete segregation of the various types of material and labor nor as an attempt to outline jurisdictional procedures. The headings shall not be deemed to limit or restrict the content, meaning or effect of such section, subsection, paragraph, provision or part.

1.5.2. The organization of the Specifications into the various headings, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Each subcontract shall be dependent upon its own definite confines, regardless of Divisions of these Specifications. No responsibility, either direct or implied, is assumed by the Owner for omissions or duplications by the Contractor or by any of his Subcontractors due to real or alleged errors in arrangement of matter in Contract Documents.

1.6. **DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION PURPOSES:** The Contractor will be furnished 6 complete sets of Drawings and Specifications to be used during the course of construction. If more than 6 sets are needed, the Contractor will be required to pay the actual cost of printing and handling.

1.7. **DEFINITIONS:** Wherever the words hereinafter defined or pronouns used in their stead occur in the Contract Documents, they shall have the following meanings:

1.7.1. **ADDENDA:** Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Document, Drawings and Specifications by

additions, deletions, clarifications or corrections. Such addenda or addenda will take precedent over the position of the general drawings and specifications concerned and will be considered as part of the Contract Documents.

1.7.2. **AGREEMENT:** The Agreement represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements, either written or oral, including the bidding documents. The Agreement may be amended or modified by a Change Order.

1.7.3. **BID:** The written offer or proposal of the Bidder, submitted on the prescribed form, properly signed and guaranteed, to perform the work at the prices quoted by the Bidder.

1.7.4. **BID BOND:** The security furnished by the Bidder with his proposal for the Project is guaranty he will enter into a contract for the work if his proposal is accepted.

1.7.5. **BIDDER:** Any individual, firm or corporation or combination of same submitting a bid for the work contemplated, acting directly or through a duly authorized representative.

1.7.6. **BONDS:** Bid, Performance and Payment Bonds and other instruments of security furnished by the Contractor and his Surety in accordance with the Contract Documents.

1.7.7. **CALENDAR DAY:** Every day shown on the calendar, Sundays and holidays included.

1.7.8. **CHANGES:** Any changes in this invitation to Bid after the contract agreement has been awarded must be with the written consent of the Purchasing Agent or the County Manager via Change Order; otherwise, the responsibility for such changes lies with the Contractor.

1.7.9. **CHANGE ORDER:** A written order to the Contractor authorizing an addition, deletion or revision in the Work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or Contract Time.

1.7.10. **CONTRACT:** The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements, either written or oral, including the bidding documents. The Contract may be amended or modified by a Change Order.

1.7.11. **CONTRACT DOCUMENTS:** The Contract Documents consist of the Advertisement for Bids, Information for Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, the Conditions of the Contract (General, Supplemental, and other Conditions), the Drawings, the Specifications, Addenda issued prior to execution of the Contract, Notice of Award, Notice to Proceed and Change Orders.

1.7.12. **CONTRACT PRICE:** The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

1.7.13. CONTRACTOR:

1.7.13.a. The individual, firm or corporation with whom the Owner has executed the Agreement by which the Contractor is obligated directly, or through Subcontractors, to perform work in connection with the Project.

1.7.13.b. The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

1.7.14. CONTRACT TIME: The number of calendar days stated in the Contract Documents for the completion of the Work.

1.7.15. DISPUTES: In cases of disputes as to whether or not an item or service quoted or delivered meets the specifications, the decision of the County of Newberry shall be final and binding on all parties. The County Purchasing Agent may request in writing, the recommendation of the head of the County agency using the item or other objective sources.

1.7.16. DEVIATIONS: Any deviations from the specifications contained herein must be noted in detail on the bidder's response for the County of Newberry's consideration. Failure to submit documentation of deviations shall be grounds for rejection of the item offered to the County of Newberry.

1.7.17. DRAWINGS: The part of the Contract Documents which show the characteristics and scope of the Work to be performed and which have been prepared or approved by the Engineer.

1.7.18. EARTH: An excavated material or material to be excavated; all kinds of material other than rock.

1.7.19. ELEVATION: The figures given on the Drawings or in the other Contract Documents after the word "elevation" or abbreviation of it shall mean the distance in feet above the datum adopted by the Engineer.

1.7.20. ENGINEER: The person, firm or corporation named as such in the Contract Documents and duly appointed by the Owner to undertake the duties and powers herein assigned to the Engineer, acting either directly or through duly authorized representatives.

1.7.21. EQUIPMENT: All machinery, together with the necessary supplies for upkeep and maintenance, and all tools and apparatus necessary for the proper construction and acceptable completion of the work.

1.7.22. FIELD ORDER: A written order effecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer to the Contractor during construction.

1.7.23. FURNISH: Furnish and install complete, in place, and ready for use.

1.7.24. **INFORMATION FOR BIDDERS:** The Notice to Contractors containing all necessary information as to provisions, requirements, date, place, and time of submitting bids.

1.7.25. **LATEST EDITION:** The current printed document issued eight weeks or more prior to date of receipt of bids.

1.7.26. **MATERIALS:** Any substance specified for use in the construction of the Project and its appurtenances.

1.7.27. **NET COST:** The cost to the Contractor after application of all credits and discounts (excepting only cash discounts) and without the addition of any factor for burden, overhead or indirect cost or profit.

1.7.28. **NOTICE OF AWARD:** The written notice of the acceptance of the Bid from the Owner to the successful Bidder.

1.7.29. **NOTICE TO PROCEED:** Written communication issued by the Owner to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work.

1.7.30. **OPTIMUM MOISTURE CONTENT FOR COMPACTION:** The moisture content of a soil calculated on the basis of dry weight of soil at which the soil can be compacted to the approximate maximum density under a specified standard method of compaction.

1.7.31. **OWNER:** A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

1.7.32. **PAYMENT BOND:** The approved form of security furnished by the Contractor to guarantee the payment to all persons supplying labor and materials in the prosecution of the work in accordance with the terms of the Contract.

1.7.33. **PERFORMANCE BOND:** The approved form of security furnished by the Contractor to guarantee the completion of the work in accordance with the terms of the Contract.

1.7.34. **PRE-CONSTRUCTION CONFERENCE:** A conference following award and prior to start of construction to be attended by a duly authorized representative of the Engineer and by the responsible officials of the Contractor and other affected parties.

1.7.35. **PROJECT:** The undertaking to be performed as provided in the Contract Documents.

1.7.36. **PROPOSAL:** The written offer of the Bidder, submitted on the prescribed form, properly signed and guaranteed, to perform the work at the prices quoted by the Bidder.

1.7.37. **PROPOSAL FORM:** The approved form on which the Owner requires formal bids to be prepared and submitted for the work.

1.7.38. **PROPOSAL GUARANTY:** The security furnished by the Bidder with his proposal for a Project, as guaranty he will enter into a contract for the work if his proposal is accepted.

1.7.39. **PROTEST:** Any actual or prospective vendor, bidder, or Contractor who is aggrieved in connection with the solicitation of award of a contract may formally protest to the Finance Director. The protest shall be submitted in writing within seven (7) days after such aggrieved person or party has received the tabulation or the intent to award letter.

1.7.40. **PROVIDE:** Furnish and install complete, in place, and ready for use.

1.7.41. **RESIDENT PROJECT REPRESENTATIVE:** The authorized representative of the Owner who is assigned to the Project site or any part thereof.

1.7.42. **ROCK:** An excavated material or material to be excavated; only boulders and pieces of concrete or masonry exceeding 1/2 cu. yd. in volume, or solid ledge rock which, in the opinion of the Engineer, requires, for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power-operated tool. No soft or disintegrated rock which can be removed with hand pick or power-operated excavator or shovel, no loose shaken, or previously blasted rock or broken stone in rock fillings or elsewhere, and no rock exterior to the maximum limits of measurement allowed, which may fall into the excavation will be classified as rock.

1.7.43. **SHOP DRAWINGS:** All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, Supplier or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

1.7.44. **SPECIALIST:** An individual or firm of established reputation which is regularly engaged in, and which maintains a regular force of workmen skilled in either manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specifications require installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.

1.7.45. **SPECIFICATIONS:** A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

1.7.46. **STRUCTURES:** Bridges, culverts, catch basins, drop inlets, manholes, retaining walls, cribbing, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other miscellaneous items which may be encountered in the work, and which are not otherwise classified herein.

1.7.47. SUBBASE: The layer or layers of specified or selected material of designated thickness or rate of application placed on a subgrade to comprise a component of the pavement structure to support the base course, pavement or subsequent layer of the construction.

1.7.48. SUBCONTRACTOR: An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative.

1.7.49. SUB-SUBCONTRACTOR: An individual, firm or corporation having a direct or indirect contract with a Subcontractor to perform any of the Work at the site. The term Sub-Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.

1.7.50. SUBGRADE: The top surface of a roadbed upon which the pavement structure and shoulders are constructed.

1.7.51. SUBSTANTIAL COMPLETION: That date as certified by the Engineer when the construction of the Project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.

1.7.52. SUPPLEMENTAL CONDITIONS: Conditions of the Contract other than the General Conditions.

1.7.53. SUPERINTENDENT: The Contractor's authorized representative in responsible charge of the work.

1.7.54. SUPPLIER: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

1.7.55. SURETY: The corporation, partnership or individual bound with and for the Contractor for the full and complete performance of the contract, and for the payment of all debts pertaining to the work.

1.7.56. TITLES (OR HEADINGS): The titles or headings of the sections and subsections herein are intended for convenience of reference and shall not be considered as having any bearing on their interpretation.

1.7.57. WORK: All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the Project.

1.7.58. WRITTEN NOTICE: Any notice to any part of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the Work.

1.7.59. ADDITIONAL DEFINITIONS:

1.7.59.a. Wherever in the Specifications or on the Drawings, the words "as designated", "as detailed", "as directed", "as ordered", "as permitted", "as prescribed", "as provided", "as requested", "as required", or words of like import are used, it shall be understood that the designation, detail, direction, order, permission, prescribed, provision, request or requirement of the Engineer is intended.

1.7.59.b. Similarly, the words "approved", "acceptable", "satisfactory", and words of like import shall mean approved by, acceptable to, or satisfactory to the Engineer.

1.8. ABBREVIATIONS: Where any other following abbreviations are used in the Specifications, they shall have the meaning set forth opposite each.

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturers Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AED	American Equipment Dealers
AFI	American Filter Institute
AGA	American Gas Association
AGC	Associated General Contractors of America, Inc.
AHDGA	American Hot Dip Galvanizers Association
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMA	Acoustical Materials Association
AMCA	Air Moving and Conditioning Association
ANS	American Nuclear Society
ANSI	American National Standards Institute
APA	American Plywood Association
ARI	Air Conditioning and Refrigeration Institute
ASA	Acoustical Society of America
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWI	Architectural Woodwork Institute

AWPA	American Wood Preservers' Association
AWPI	American Wood Preservers' Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
CGA	Compressed Gas Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards, U. S. Department of Commerce
CSI	Construction Specification Institute
EIA	Electronic Industries Association
FS	Federal Specification
FSPT	Federation of Societies for Paint Technology
FSS	Federal Specifications, General Services Administration
FHWA	Federal Highway Administration
GA	Gypsum Association
IBI	Insulation Board Institute
IBR	Institute of Boiler and Radiator Manufacturers
IEEE	Institute of Electric and Electronics Engineers
IES	Illuminating Engineering Society
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
LIA	Lead Industries Association
MBMA	Metal Building Manufacturers Association
MIA	Marble Institute of America
MPTA	Mechanical Power Transmission Association
MS	Military Specification
MSTD	Military Standard
NAAMM	National Association of Architectural Metal Manufacturers
NAFM	National Association of Fan Manufacturers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NECA	National Electrical Contractors Association, Inc.
NEMA	National Electrical Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NHLA	National Hardware Lumber Association
NLMA	National Lumber Manufacturers Association
NPC	National Plumbing Code
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NTMA	The National Terrazzo and Mosaic Association

NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PEI	Porcelain Enamel Institute
RTI	Resilient Tile Institute
RWMA	Resistance Welder Manufacturers Association
SBI	Steel Boiler Institute
SCDOT	South Carolina Department of Transportation
SCPI	Structural Clay Products Institute
SDI	Steel Deck Institute
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSBC	Southern Standard Building Code
SSGC	Southern Standard Gas Code
SSPC	Steel Structures Painting Council
TAPPI	Technical Association of the Pulp and Paper Industry
TCA	Tile Council of America
TRB	Transportation Research Board
UL	Underwriters' Laboratories, Inc.

2. OWNER'S RIGHTS AND RESPONSIBILITIES

2.1. CHANGES IN THE WORK:

2.1.1. The Owner, without invalidating the Contract, may make changes in the Work and in the Drawings and Specifications therefor by making alterations therein, additions thereto, or omissions therefrom.

2.1.2. All work resulting from such changes shall be performed and furnished under and pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the work to be done hereunder, or increase or decrease the quantities thereof, adjustment in compensation shall be made therefor as provided in Subsection 7.12 entitled PAYMENT FOR EXTRA WORK.

2.1.3. Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Engineer authorizing the change, and no claim for additional compensation shall be valid unless the change is so ordered.

2.1.4. The Contractor agrees that he shall neither have nor assert any claim for, or be entitled to, any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

2.2. PROJECT ENGINEER: As Engineer for this project the Owner has retained:

The LandPlan Group South, Inc.
1206 Scott Street
Columbia, SC 29201

2.3. ENGINEER'S AUTHORITY:

2.3.1. The Engineer will be the Owner's representative during the construction period and he will observe the work in progress on behalf of the Owner. The Engineer will have the authority to act on behalf of the Owner in the following matters consistent with Owner's rights and obligations as set forth in these Contract Documents:

- 2.3.1.a. Interpretation of Contract Documents.
- 2.3.1.b. Approval of samples and shop drawings.
- 2.3.1.c. Preparation of supplementary details and instructions.
- 2.3.1.d. Inspection and approval of construction work.
- 2.3.1.e. Preliminary approval of progress payment applications.

2.3.2. Any instructions which the Engineer may issue the Contractor shall be adjudged an interpretation of the Contract requirements and not an act of supervision. The Engineer has no authority, nor accepts any responsibility, either direct or implied, to direct and superintend the construction operations.

2.3.3. The Contractor shall proceed without delay to perform the work as directed, instructed, determined, or decided by the Engineer and shall comply promptly with such directions, instructions, determinations, or decisions. If the Contractor has any objection thereto, he may require that any such direction, instruction, determination, or decision be put in writing and within 10 days after receipt of any such writing, he may file a written protest with the Owner stating clearly and in detail his objections, the reasons therefor, and the nature and amount of additional compensation, if any, to which he claims he will be entitled thereby. A copy of such protest shall be filed with the Engineer at the same time it is filed with the Owner. Unless the Contractor files such written protest with the Owner and Engineer within such 10 day period, he shall be deemed to have waived all grounds for protest of such direction, instruction, determination, or decision and all claims for additional compensation or damages occasioned thereby, and shall further be deemed to have accepted such direction, instructions, determination, or decision as being fair, reasonable, and finally determinative of his obligations and rights under the Contract.

2.4. LIABILITY OF OWNER: No person, firm or corporation, other than the Contractor, who signed this Contract as such, shall have any interest herein or right hereunder. No claim shall be made or be valid either against the Owner or any agent of the Owner and neither the Owner nor any agent of the Owner shall be liable for or be held to pay any money, except as herein provided. The acceptance by the Contractor of the payment as fixed in the final estimate shall operate as and shall be a full and complete release of the Owner and of every agent of the

Owner of and from any and all claims, demands, damages and liabilities of, by or to the Contractor for anything done or furnished for or arising out of or relating to or by reason of the work or for or on account of any act or neglect of the Owner or of any agent of the Owner or of any other person, arising out of, relating to or by reason of the work, except the claim against the Owner for the unpaid balance, if any there be, of the amounts retained as herein provided.

2.5. RIGHTS-OF-WAY: The Owner shall furnish all land and rights-of-way necessary for the carrying out of this contract and the completion of the Work herein contemplated.

2.6. SURVEYS, PERMITS AND REGULATIONS:

2.6.1. The Owner will furnish all boundary surveys and establish all base lines for locating the principal component parts of the Work together with a suitable number of bench marks adjacent to the Work as shown in the Contract Documents. From the information provided by the Owner, unless otherwise specified in the Contract Documents, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

2.6.2. The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

2.6.3. Permits and licenses of a temporary nature necessary for the prosecution of the Work shall be secured and paid for by the Contractor unless otherwise stated in the Supplemental Conditions. Encroachment permits, slope permissions for permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in Subsection 2.1 entitled CHANGES IN THE WORK.

2.7. LINES, GRADES AND MEASUREMENTS:

2.7.1. The Owner's Engineer will set sufficient base lines and elevations as shown on the Drawings for location of the Work. The Contractor shall employ a registered Civil Engineer, or land surveyor and shall require said Engineer to establish all lines, elevations, reference marks, batter boards, etc., needed by the Contractor during the progress of the work, and from time to time to verify such marks by instrument or other appropriate means.

2.7.2. The Owner's Engineer shall be permitted at all times to check the lines, elevations, reference marks, batter boards, etc., set by the Contractor, who shall correct any errors in lines, elevations, reference marks, batter boards, etc., disclosed by such check. Such check shall not be construed to be an approval of the Contractor's work and shall not relieve or diminish in any way

the responsibility of the Contractor for the accurate and satisfactory construction and completion of the work.

2.7.3. The Contractor shall make, check and be responsible for all measurements and dimensions necessary for the proper construction of, and the prevention of misfittings in, the work.

2.8. OWNER'S RIGHT OF AUDIT: In case the Owner agrees that a Contractor perform work on a cost plus basis, the Owner is to have a full and complete right to audit and make copies of Contractor's or Subcontractor's records with respect to any payment to Owner may be requested to make, or may make, for any work done on a cost plus basis.

2.9. OWNER'S RIGHT TO SEPARATE CONTRACTS:

2.9.1. The Owner reserves the right to let other contracts in connection with the Work under similar General Conditions. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

2.9.2. The Owner may perform additional Work related to the Project by himself, or he may let other contracts containing provisions similar to these. The Contractor will afford the other Contractors who are parties to such Contracts (or the Owner, if he is performing the additional Work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of Work and shall properly connect and coordinate his Work with theirs.

2.10. OWNER'S RIGHT TO DO WORK:

2.10.1. If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after three days' written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. If such expense shall exceed the unpaid balance, the Contractor shall pay the difference to the Owner on demand.

2.10.2. The Engineer's certificate setting forth the fair and reasonable cost of repairing, replacing, rebuilding or restoring any damaged or defective work or equipment when performed by one other than the Contractor shall be binding and conclusive as to the amount thereof upon the Contractor.

2.11. OWNER'S RIGHT TO TERMINATE CONTRACT: If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver or trustee should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to Subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner and his representatives, or otherwise be guilty of

substantial violation of any provision of the Contract, then the Owner, may, without prejudice to any other right or remedy and after giving the Contractor, and his surety, if any, seven days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, as it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work including compensation for additional engineering, managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

2.12. **SUSPENSION OF WORK, TERMINATION AND DELAY:** The Owner may suspend the Work or any portion thereof for a period of not more than 90 days or such further time as agreed upon by the Contractor, by written notice to the Contractor and the Engineer, which notice shall fix the date on which Work shall be resumed. The Contractor will resume that Work on the date so fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension.

2.13. **INSPECTIONS AND TESTING:** If the Contract Documents, Owner's instructions, laws, ordinances or any public authority having jurisdiction require any work to be specially tested or approved, the Contractor shall give the Owner timely notice of its readiness for observation by the Owner or inspection by another authority, and if the inspection is by another authority rather than the Owner, of the date fixed for such inspection. The required certificates of such inspection shall be secured and paid for by the Contractor. All SCDOT inspections shall be paid for by the General Contractor. Observations by the Owner shall be promptly made, and where practicable, at the source of supply. If any work should be covered up without approval or consent of the Owner, it must, if required by the Owner, be uncovered for examination, at the Contractor's expense.

2.14. **INSPECTION OF WORK AWAY FROM THE SITE:** If the work to be done away from the construction site is to be inspected on behalf of the Owner during its fabrication, manufacture, or testing, or before shipment, the Contractor shall give notice to the Engineer of the place and time where such fabrication, manufacture, testing, or shipping is to be done. Such notice shall be in writing and delivered to the Engineer in ample time so that the necessary arrangements for the inspection can be made.

2.15. **PIPE LOCATION:** Exterior pipelines will be located substantially as indicated on the Drawings, but the right is reserved to the Owner acting through the Engineer, to make such modifications in location as may be found desirable to avoid interference with structures or for other reasons. Where fittings, etc., are noted on the Drawings such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.

2.16. **PRIOR USE OR OCCUPANCY:** The Owner reserves the right to use or occupy the Work or portion thereof, and to use equipment installed under the Contract, prior to final acceptance. Such use or occupancy will not constitute acceptance of the Work or any part

thereof. Despite such use or occupancy, guarantee periods will not begin until the completion of all work under the Contract, unless agreement to the contrary is made in writing between the parties.

2.17. WEATHER CONDITIONS: In the event of temporary suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause his subcontractors to, protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect its work, such materials shall be removed and replaced at the expense of the Contractor.

2.18. OWNER'S RIGHT TO CLEAN UP: If a dispute arises between the separate Contractors as to their responsibility for cleaning up, the Owner may clean up and charge the cost thereof to the Contractor as the Engineer shall determine to be just.

3. CONTRACTOR'S RIGHTS AND RESPONSIBILITIES

3.1. ACCESS TO WORK: The Owner, the Engineer, and their officers, agents, servants, and employees plus representatives of the various participating Federal or State agencies may at any and all times and for any and all purposes, enter upon the work and site thereof and the premises used by the Contractor, and the Contractor shall at all times provide safe and proper facilities therefor.

3.2. ACCIDENT PREVENTION: In the performance of the contract the Contractor shall comply with the applicable provisions of the regulations issued by the Secretary of Labor pursuant to section 107 of the Contract Work Hours and Safety Standards Act entitled "Safety and Health Regulations for Construction" (29 CFR 1518, renumbered as Part 1926). Occupational Safety and Health Standards (29 CFR Part 1910) issued by the Secretary of Labor pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970 are applicable to work performed by the Contractor subject to the provisions of the Act.

3.3. STATED ALLOWANCES: The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. These allowances shall cover the net cost of the materials and equipment delivered and unloaded at the site, and all applicable taxes. The Contractor's handling costs on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowance. If the cost, when determined, is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order which will include additional handling costs on the site, labor, installation costs, overhead, profit and other expenses resulting to the Contractor from any increase over the original allowance.

3.4. ARCHAEOLOGICAL RIGHTS: There is a possibility that items of archaeological significance may be found during the excavation of the site. In such event, the Contractor shall stop excavation in the vicinity of the find and notify the Engineer immediately; subsequent

excavation work shall proceed as directed by the Engineer. All items found which are considered to have archaeological significance are the property of the Owner.

3.5. AS-BUILT DRAWINGS: The Contractor shall designate one set of Drawings for "As-Built Drawings". The Contractor shall indicate on these drawings all field changes affecting various mechanical, electrical, piping and other items as well as locations as actually installed. The "As-Built Drawings" shall be kept current by the Contractor. The "As-Built Drawings" shall be delivered to the Engineer upon completion and acceptance of the work. Final payment for the work will not be made until the "As-Built Drawings" have been completed and delivered as indicated above.

3.6. OBLIGATIONS OF CONTRACTOR:

3.6.1. The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, tools, machinery, equipment, transportation, supervision, temporary construction of any nature, and all other services, means and facilities except as herein otherwise expressly specified, necessary or proper to perform and complete all work required by this Contract, within the time herein specified, in accordance with the provisions of this Contract and in accordance with the Drawings and Specifications and in accordance with the direction of the Engineer as given from time to time during the progress of the work. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required.

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

3.6.3. The Contractor shall check all dimensions, elevations, quantities and instructions shown on the Drawings or given in the Specifications and shall notify the Engineer should any discrepancy of any kind be found in the Drawings, Specifications or conditions at the site. He will not be allowed to take advantage of any discrepancy, error or omission in the Contract Documents. If any discrepancy is discovered, the Engineer will issue full instructions pertaining thereto and the Contractor shall carry out these instructions as if originally specified.

3.7. CLAIMS FOR ADDITIONAL COST: If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give written notice thereof within ten days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property, in which case the Contractor shall proceed in accordance with Subsection 3.27 entitled PROTECTION OF WORK, PROPERTY AND PERSONS IN AN EMERGENCY. No such claim shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Engineer. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

3.8. CLAIMS FOR DAMAGE:

3.8.1. If the Contractor makes claim for any damages alleged to have been sustained by breach of contract or otherwise, he shall, within 10 days after occurrence of the alleged breach or within 10 days after such damages are alleged to have been sustained, whichever date is the earlier, file with the Engineer a written, itemized statement in triplicate of the details of the alleged breach and the details and amount of the alleged damages. The Contractor agrees that unless such statement is made and filed as so required, his claim for damages shall be deemed waived, invalid and unenforceable, and that he shall not be entitled to any compensation for any such alleged damages. Within 10 days after the timely filing of such statement, the Engineer shall file with the Owner one copy of the statement together with his recommendations for action by the Owner.

3.8.2. The Contractor shall not be entitled to claim any additional compensation for damages by reason of any direction, instruction, determination or decision of the Engineer, nor shall any such claims be considered, unless the Contractor shall have complied in all respects with the last paragraph of Subsection 2.a entitled ENGINEER'S AUTHORITY, including, but not limited to, the filing of written protest in the manner and within the time therein provided.

3.9. CUTTING AND PATCHING:

3.9.1. The Contractor shall leave all chases or openings for the installation of his own or any other Contractor's Subcontractor's work, or shall cut the same in existing work, and shall see that all sleeves or forms are at the work and properly set in ample time to prevent delays. He shall see that all such chases, openings, and sleeves are located accurately and are of proper size and shape and shall consult with the Engineer and the Contractors and Subcontractors concerned in reference to this work.

3.9.2. In case of his failure to leave or cut all such openings or have all such sleeves provided and set in proper time, he shall cut them or set them afterwards at his own expense, but in so doing he shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case shall piers or structural members be cut without the written consent and approval of the Engineer.

3.9.3. The Contractor shall carefully fit around, close up, repair, patch, and point around the work specified herein to the satisfaction of the Engineer.

3.9.4. All of this work shall be done by careful workmen competent to do such work and with the proper small hand tools. Power tools shall not be used except where, in the opinion of the Engineer, the type of tool proposed can be used without damage to any work or structure and without inconvenience or interference with the operation of any facility. The Engineer's approval of the type of tool shall not in any way relieve or diminish the responsibility of the Contractor for such damage, inconvenience or interference resulting from the use of such tools.

3.9.5. The Contractor shall not cut or alter the work of any Subcontractor or any other Contractor, nor permit any of his Subcontractors to cut or alter the work of any other Contractor or Subcontractor except with the written consent of the Contractor or Subcontractor whose work is to be cut or altered or with the written consent of the Engineer. All cutting and patching or repairing made necessary by the negligence, carelessness, or incompetence of the Contractor or any of his Subcontractors shall be done by or at the expense of the Contractor and shall be the responsibility of the Contractor.

3.10. CLEANING UP:

3.10.1. The Contractor at all times shall keep the site of the work free from rubbish and debris caused by his operation under the Contract. When the work has been completed, the Contractor shall remove from the site of the work all of his plant, machinery, tools, construction equipment, temporary work and surplus materials so as to leave the work and the site clean and ready for use.

3.10.2. All public streets adjacent to the site and all private ways at the site shall be kept clean of debris, spilled materials, and wet and dry earth at all times and shall be cleaned at the end of each working day. When wet earth is encountered, it shall be cleaned from the vehicles before they leave the site and enter streets and private ways.

3.11. NON-COMPLIANCE WITH CONTRACT REQUIREMENTS: In the event the Contractor, after receiving written notice from the Owner of non-compliance with any requirement of this Contract, fails to initiate promptly such action as may be appropriate to comply with the specified requirement within a reasonable period of time, the Owner shall have the right to order the Contractor to stop any or all work under the Contract until the Contractor has complied or has initiated such action as may be appropriate to comply within a reasonable period of time. The Contractor will not be entitled to any extension of contract time or payment for any costs incurred as a result of being ordered to stop work for such cause.

3.12. OVERALL PROJECT COORDINATION: The Contractor shall coordinate all Work of his Contract to produce the required finished Project in accordance with the Contract Documents. Special attention shall be given to the submission of shop drawings, samples, color charts, and requests for substitution within the specified time; furnishing the proper shop drawings to Subcontractors and material suppliers, whose work and equipment is affected by and related thereto; and the furnishing of all information concerning location, type, and size of built-in equipment and materials and equipment utilities. This coordination is in addition to all other coordination requirements called for in the technical sections of the Specifications.

3.13. COMMUNICATIONS: The Contractor shall forward all communications to the Owner through the Engineer.

3.14. NO DISCRIMINATION IN EMPLOYMENT: In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion,

or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

3.15. **DRAWINGS AND SPECIFICATIONS AT THE SITE:** The Contractor shall maintain at the site one complete set of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders and other Modifications, in good and readable condition and marked to record all changes made during construction. These shall be available to the Engineer. The Drawings, marked to record all changes made during construction, shall be delivered to the Engineer for the Owner upon completion of the work.

3.16. **EMPLOY COMPETENT PERSONS:** The Contractor shall endeavor to employ only competent persons on the Work. Whenever the Engineer notifies the Contractor in writing that in his opinion any person on the Work is incompetent, unfaithful, disorderly, or otherwise unsatisfactory, or not employed in accordance with the provisions of the Contract, such person shall be discharged from the Work and shall not again be employed on it, except with the written consent of the Engineer. Provided, however, that the failure of the Owner or Engineer to object to an employee is not to be considered acknowledgment or approval of the employee's competence by the Engineer or Owner.

3.17. **EMPLOY SUFFICIENT LABOR AND EQUIPMENT:** If, in the judgement of the Engineer, the Contractor is not employing sufficient labor, plant, equipment or other means to complete the work within the time specified, the Engineer may, after giving written notice, require the Contractor to employ such additional labor, plant, equipment and other means as the Engineer may deem necessary to enable the work to progress properly.

3.18. **EXISTING STRUCTURES:** Where the dimensions and locations of existing structures are of importance in the installation or connection of any part of the Work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment which is dependent on the correctness of such information.

3.19. **INDEMNIFICATION:**

3.19.1. The Contractor will indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

3.19.2. In any and all claims against the Owner or the Engineer, or any of their agents or employees, by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by an limitation on the amount or type

of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

3.20. INTOXICATING LIQUORS: The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors upon or about the work.

3.21. LEGAL ADDRESS OF CONTRACTOR: The Contractor's business address and his office at or near the site of the work are both hereby designated as places to which communications may be delivered. The depositing of any letter, notice, or other communication in a postpaid wrapper directed to the Contractor's business address in a post office box regularly maintained by the U. S. Postal Service or the delivery at either designated address of any letter, notice, or other communication by mail or otherwise shall be deemed sufficient service thereof upon the Contractor, and the date of such service shall be the date of receipt. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Engineer. Service of any notice, letter or other communication upon the Contractor personally shall likewise be deemed sufficient service.

3.22. MUTUAL RESPONSIBILITY OF CONTRACTORS:

3.22.1. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate his Work with theirs.

3.22.2. If any part of the Contractor's Work depends for proper execution or results upon the work of any other separate contractor, the Contractor shall inspect and promptly report to the Owner any apparent discrepancies or defects in such work that render it unsuitable for such proper execution and results. Failure of the Contractor so to inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper to receive his Work, except as to defects which may develop in the other separate Contractor's work after the execution of the Contractor's Work. To ensure proper execution of the subsequent work, the Contractor shall measure work already in place and shall at once report to the Owner any discrepancy between the executed work and the Contract Documents.

3.22.3. Should the Contractor cause damage to any separate Contractor on the work, the Contractor agrees, upon due notice, to settle with such Contractor by agreement or arbitration, if he will so settle. If such separate Contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor, who shall defend such proceedings at the Contractor's expense, and if any judgement against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay all costs incurred by the Owner.

3.23. NIGHT AND SUNDAY WORK:

3.23.1. No work shall be done at night or on Sunday except:

3.23.1.a. Usual protective work, such as pumping and the tending of lights and fires;

3.23.1.b. Work done in case of emergency threatening injury to persons or property;

3.23.1.c. When provided for under Supplemental Conditions as herein specified;
3.23.1.d. If all of the conditions set forth in the next paragraph below are met.

3.23.2. No work other than that included in (3.23.1.a), (3.23.1.b), and (3.23.1.c) above, shall be done at night except when:

3.23.2.a. In the judgment of the Engineer, the work will be of advantage to the Owner and can be performed satisfactorily at night;

3.23.2.b. The work will be done by a crew organized for regular and continuous night work;

3.23.2.c. The Engineer has given written permission for such night work.

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

3.24. OCCUPYING PRIVATE LAND: The Contractor shall not enter or occupy with men, tools, materials, or equipment, any land outside the rights-of-way, property of the Owner, or voluntary donation of property easement as documented.

3.25. PERMITS AND RESPONSIBILITIES: The Contractor shall, without additional expense to the Owner, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occurs as a result of his fault or negligence. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

3.26. PRECAUTIONS DURING ADVERSE WEATHER:

3.26.1. During adverse weather and against the possibility thereof, the Contractor shall take all necessary precautions so that the Work may be properly done and satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood and building-paper shelters, or other approved means.

3.26.2. During cold weather, materials shall be preheated, if required, and the materials and adjacent structure into which they are to be incorporated shall be made and kept sufficiently warm so that a proper bond will take place and a proper curing, aging, or drying will result. Protected spaces shall be artificially heated by approved means which will result in a moist or a dry atmosphere according to the particular requirements of the work being protected. Ingredients for concrete and mortar shall be sufficiently heated so that the mixture will warm throughout when used.

3.26.3. The Engineer may suspend construction operations at any time when, in his judgement, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather

may be, in any season. The Contractor agrees that he shall not have or assert any claim for or be entitled to any additional compensation or damages on account of any such suspension.

3.27. PROTECTION OF WORK, PROPERTY AND PERSONS:

3.27.1. The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

3.27.2. The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the Work may affect them. The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the Contract Documents or to the acts or omissions of the Owner or the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

3.28. PROTECTION OF WORK, PROPERTY AND PERSONS IN AN EMERGENCY: In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or Owner, shall act to prevent threatened damage, injury or loss. He will give the Engineer prompt Written Notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved.

3.29. PROTECTION AGAINST WATER AND STORM: The Contractor shall take all precautions necessary to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor shall at his own cost and expense make such repairs or replacements or rebuild such parts of the Work as the Engineer may require in order that the finished work may be completed as required by the Contractor.

3.30. PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES AND IMPROVEMENTS:

3.30.1. The Contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of the work which is not to be removed and which does not reasonably interfere with the construction work. Care shall be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as approved by the Engineer.

3.30.2. The Contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to him, and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this Contract or the failure to exercise reasonable care in the performance of the Work. If the Contractor fails or refuses to repair any such damage promptly, the Owner may have the necessary work performed and charge the cost thereof to the Contractor.

3.30.3. The Contractor shall enclose the trunks of trees adjacent to his work and not to be cut, with substantial wooden boxes of such height as may be necessary to protect them from injury from piled material, from equipment, from his operation, or otherwise due to his work. Excavating machinery and cranes shall be of suitable type and shall be operated with care to prevent injury to trees not to be cut and particularly to overhanging branches and limbs.

3.30.4. On paved surfaces, the Contractor shall not use or operate tractors, bulldozers or other power-operated equipment, the treads or wheels of which are so shaped as to cut or otherwise injure such surfaces.

3.31. RESTORATION OF PROPERTY: All existing surfaces, including lawns, grassed and planted areas which have been injured by the Contractor's operations, shall be restored to a condition at least equal to that in which they were found immediately before work was begun. Suitable materials and methods shall be used for such restoration. All restored plantings shall be maintained by cutting, trimming, fertilizing, etc., until acceptance. The restoration of existing property or structures shall be done as promptly as practicable and shall not be left until the end of construction period.

3.32. INTERFERENCE WITH AND PROTECTION OF STREETS:

3.32.1. The Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining permits therefor from the proper authorities. If any street, road or private way shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the proper authorities.

3.32.2. Streets, roads, private ways, and walks not closed shall be maintained passable and safe by the Contractor, who shall assume and have full responsibility for the adequacy and safety of provisions made therefor.

3.32.3. The Contractor shall, at least 24 hours in advance, notify the highway, police and fire departments in writing, with a copy to the Engineer, if the closure of a street or road is necessary. He shall cooperate with the police department in the establishment of alternate routes and shall provide adequate detour signs, plainly marked and well lighted, in order to minimize confusion.

3.33. TRAFFIC CONTROL: Where control of traffic is required for public safety, the Contractor shall provide an adequate number of flagmen employed at his own expense.

3.34. CONSTRUCTION DRAINAGE:

3.34.1. The Contractor shall furnish all labor, materials and necessary equipment for the temporary control of surface water and seepage water during construction and keep all excavations, pits and trenches free from water at all times.

3.34.2. The Contractor shall furnish and operate pumps and other equipment required. Dikes and ditches shall be constructed around excavations and elsewhere as necessary to prevent surface water from flooding the excavations or standing in areas adjacent to excavations, in work areas or in material storage areas. The Contractor shall take all necessary precautions to protect adjacent areas and properties at points other than that which would be considered the natural flow, prior to construction, without the expressed consent of the Owner in writing with a copy to the Engineer. He shall take steps to prevent the erosion of soil, earth and other material and the conduction of the eroded materials onto adjacent properties and shall be responsible for the removal of such materials and the restoration of adjacent areas to their original condition.

3.35. RETURN OF DRAWINGS: All copies of Drawings, Specifications and other Documents furnished by the Owner or the Engineer to the Contractor may be used only in connection with the prosecution of the Work and shall be returned by the Contractor upon completion of the Work.

3.36. SITE INVESTIGATION: The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, water table, tides or similar physical conditions at the site, the confirmation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor further acknowledges that he has satisfied himself as to character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from information presented by the Drawings and Specifications made a part of this Contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Owner.

3.37. SOIL EROSION AND SEDIMENT CONTROL: The Contractors attention is directed to the fact that unless exposed earth areas are properly cared for during construction, they may result in substantial sedimentation damage downstream from the construction area. The Contractor shall be responsible for conducting his site grading and drainage operations in such manner as to prevent excessive soil erosion of the construction site work areas. He shall at all times provide satisfactory means to prevent the movement and washing of soil onto pavements or into adjacent ditches, swales, inlets, and drainage pipes, to avoid the possibility of these structures becoming clogged with soil. He shall promptly repair all areas which may become eroded and shall clear drainage ditches, swales, and structures of siltation. The Contractor will indemnify and save harmless the Owner and Engineer from and against any and all claims, demands, fines, or assessments, including attorneys' fees and cost of defense arising out of or caused by the Contractor's failure to provide soil erosion and sediment control.

3.38. SUBSURFACE CONDITIONS: The Contractor shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the Owner by Written Notice of:

3.38.1.a. Subsurface or latent physical conditions of the site differing materially from those indicated in the Contract Documents.

3.38.1.b. Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

3.38.2. The Owner shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Contract Documents shall be modified by Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given the required Written Notice; provided that the Owner may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

3.39. SUBCONTRACTING:

3.39.1. The Contractor may utilize the services of specialty Subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty Subcontractors. The Contractor shall, without additional expense to the Owner, utilize the services of specialty Subcontractors on those parts of the work which are specified to be performed by specialty Subcontractors.

3.39.2. The Contractor shall not award any work to any subcontractor without prior written approval of the Owner, which approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Owner may require. No request for payment will be approved before this list has been received and reviewed by the Owner.

3.39.3. The Contractor shall not award Work to Subcontractor(s), in excess of 50 percent of the Contract Price, without prior written approval of the Owner.

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

3.39.5. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

3.39.6. If any other Contractor or any Subcontractor of any such other Contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the Contractor or of any of his Subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage. The Contractor agrees to and does hereby indemnify and save harmless the Owner from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay and from and against any and all claims, demands, costs and expenses, including attorneys' fees, arising out of, relating to or resulting from such claims.

3.39.7. The Contractor shall be responsible for the coordination of the trades, subcontractors, and material men engaged upon his work. The Owner or Engineer will not undertake to settle any differences between the Contractor and his Subcontractors or between Subcontractors. If any Subcontractor on the project, in the opinion of the Engineer, proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

3.40. SUPERVISION:

3.40.1. The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Owner. The superintendent shall not be changed except with the consent of the Owner, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor. Important directions shall be confirmed in writing to the Contractor. Other directions shall be so confirmed on written request in each case. The Owner shall not be responsible for the acts or omissions of the superintendent or his assistants.

3.40.2. The Contractor shall give efficient supervision to the Work, using his best skill and attention. He shall carefully study and compare all Drawings, Specifications and other instructions and shall at once report to the Owner any error, inconsistency or omission which he may discover.

3.41. TAXES: The Contractor shall promptly pay federal, state and local taxes which may be assessed against him in connection with the work or his operations under the Agreement and/or the other Contract Documents, including, but not limited to, taxes attributable to the purchase of materials and equipment, to the performance of services, and the employment of persons in the prosecution of the work.

3.42. TEMPORARY HEAT:

3.42.1. The Contractor shall provide temporary heat whenever necessary to protect all Work and materials against injury from dampness and cold and to dry out moisture from the building. Fuel, equipment and method of heating shall be satisfactory to the Owner's Insurer and the Engineer.

3.42.2. Temporary heating apparatus shall be installed and operated in such a manner that finished work will not be damaged thereby.

3.43. SANITARY FACILITIES: The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the site of the Work, shall be properly secluded from public observations, and shall be constructed and maintained during the progress of the Work in suitable numbers and at such points and in such manner as may be required or approved. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the work, on the lands of the Owner, or on adjacent property. The Owner and the Engineer shall have the right to inspect such facilities at all times to determine whether or not they are being properly and adequately maintained.

3.44. TEMPORARY UTILITIES:

3.44.1. The Contractor shall make arrangements for and furnish as a part of the Contract, all electricity, water, lighting and other utilities needed to do the Work called for by the Contract. Any separate contractors having a contract with the Owner shall make arrangements for and share the cost with the Contractor for the use of the required utilities on a pro rated schedule based on an agreed basis. All Electrical Work shall comply with the National Electrical Code.

3.44.2. The Contractor shall provide and pay for all temporary wiring, switches, connections and meters.

3.44.3. The Contractor shall provide sufficient electric lighting so that all work may be done in a workmanlike manner when there is not sufficient daylight.

3.45. UNCOVERING AND CORRECTION OF WORK:

3.45.1. The Engineer shall be furnished by the Contractor with every reasonable facility for examining and inspecting the work and for ascertaining that the work is being performed in

accordance with the requirements and intent of the Contract, even to the extent of requiring the uncovering or taking down of portions of finished work by the Contractor.

3.45.2. Should the work thus uncovered or taken down prove satisfactory, the cost of uncovering or taking down and the replacement thereof shall be considered as extra work unless the original work was done in violation of the Contract in point of time or in the absence of the Engineer or his inspector and without his written authorization, in which case said cost shall be borne by the Contractor. Should the work uncovered or taken down prove unsatisfactory, said cost shall likewise be borne by the Contractor.

3.45.3. The inspection of the work shall not relieve the Contractor of any of his obligations to perform and complete the work as required by the Contract. Defective work shall be corrected and unsuitable materials, equipment, apparatus and other items shall be replaced by the Contractor, notwithstanding that such work, materials, equipment, apparatus and other items may have been previously overlooked or accepted or estimated for payment. If the work or any part thereof shall be found defective at any time before the final acceptance of the work, the Contractor shall forthwith make good such defect in a manner satisfactory to the Engineer; if any materials, equipment, apparatus or other items brought upon the site for use or incorporation in the work, or selected from the same, are condemned by the Engineer as unsuitable or not in conformity with the Specifications or any of the other Contract Documents, the Contractor shall forthwith remove such materials, equipment, apparatus and other items from the site of the work and shall at his own cost and expense make good and replace the same and any material furnished by the Owner which shall be damaged or rendered defective by the handling or improper installation by the Contractor, his agents, servants, employees or Subcontractors.

3.45.4. If the Owner deems it inexpedient to correct work injured or done not in accordance with the Contract, an equitable deduction from the Contract Price shall be made therefor.

3.46. COOPERATION WITH UTILITIES:

3.46.1. The Owner will notify all utility companies, all pipe line Owners, or other parties affected, and endeavor to have all necessary adjustments of the public or private utility fixtures, pipe lines, and other appurtenances within or adjacent to the limits of construction, made as soon as practicable.

3.46.2. Water lines, gas lines, wire lines, sewer lines, water and gas meter boxes, water and gas valve boxes, manholes, light standards, cableways, signals, and all other utility appurtenances within the limits of the proposed construction which are to be relocated or adjusted are to be moved by the Owners under separate agreement, except as otherwise provided for in the Supplemental Conditions or as noted on the Drawings.

3.46.3. The Drawings will show all known utilities located within the limits of the contract according to information obtained. The accuracy of the Drawings in this respect is not guaranteed by the Owner. The Contractor shall have considered in his bid all of the permanent and temporary utility appurtenances in their present or relocated position. No additional

compensation will be allowed for any delays, inconveniences, or damages sustained by him due to any interference from the said utility appurtenances or the operation of moving them.

3.46.4. Unless otherwise provided, the cost of temporary rearrangement of utilities made only in order to facilitate the construction of the work will be borne by the Contractor.

3.47. VERIFICATION OF DIMENSIONS AND ELEVATIONS:

3.47.1. Dimensions and elevations indicated on the Drawings in reference to existing structures, location of utilities, sewer inverts, or other information on existing facilities, are the best available data obtainable but are not guaranteed by the Engineer. The Engineer will not be responsible for their accuracy. Before proceeding with any work dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, inverts, lines, elevations, or other conditions of limitations at the site of the work to avoid construction errors or damage to existing facilities. If any work is performed by the Contractor, or any Subcontractors, prior to adequate verification of applicable data, any resultant extra cost for adjustment of work necessary to conform to existing facilities, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

3.47.2. If the Contractor, in the course of the work, finds any discrepancy between the Drawings and the physical conditions of the locality, or any errors or omissions in the Drawings or in the layout as given by survey points and instructions, he shall immediately inform the Engineer, in writing. The Engineer will promptly investigate the reported conditions and issue such instructions as may be necessary for the proper execution of the work. Any work done after such discovery and prior to receipt of such instructions shall be at the risk of the Contractor.

4. MATERIALS, EQUIPMENT AND WORKMANSHIP

4.1. CHEMICAL USAGE: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either EPA or U.S.D.A. The use of all such chemicals and disposal of residues shall be in strict conformance with manufacturer and U.S.D.A. instructions.

4.2. TITLE TO MATERIALS: No materials or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him, in the Work, free from all liens, claims or encumbrances.

4.3. CORRECTION OF WORK BEFORE COMPLETION:

4.3.1. The Contractor shall promptly remove from the premises all work condemned by the Owner as failing to conform to the Contract Documents, whether incorporated or not and the Contractor shall promptly replace and re- execute his own work in accordance with the Contract and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement. The fact that the Engineer

may have previously overlooked such defective work shall not constitute an acceptance of any part of it.

4.3.2. If the Contractor does not remove such condemned work within a reasonable time, fixed by written notice, the Owner may remove it, and after storing it at the job site for 30 days, due written notice thereof being given the Contractor, the Owner may offer the material for sale and removal from the premises. Net proceeds from such sale shall be for the Contractor's credit against the "Owner's Right to Do Work". If the material has no sale value, the Owner may remove it from the premises and/or otherwise dispose of it. The costs of such disposition shall be deducted from payments to the Contractor as provided in Subsection 2.10 entitled OWNER'S RIGHT TO DO WORK.

4.4. CORRECTION OF WORK AFTER COMPLETION: The Contractor shall remedy any defects due to faulty materials or workmanship and pay for any damage to other work resulting therefrom which shall appear within a period of one year from the date of final acceptance of the work except where longer periods are specified and in accordance with the terms of any special guarantees provided in the Contract.

4.5. CORRECTIONS OF WORK AFTER GUARANTEE PERIOD: It shall be the responsibility of the Contractor to permanently correct all defective items called to his attention within the guarantee period, whether such correction be made within the guarantee period or not. The Contract shall not be fully performed until such permanent corrections are made.

4.6. GENERAL GUARANTY:

4.6.1. The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not so conforming to these standards may be considered defective. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

4.6.2. Neither the final certificate of payment nor any provision in the Contract Documents nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work, except where longer periods are specified. If the Contractor shall fail to repair, replace, rebuild or restore such defective or damaged work or equipment promptly after receiving notice, the Owner shall have the right to have the work done by others in the same manner as is provided for in Subsection 2.10, OWNER'S RIGHT TO DO WORK.

4.6.3. The Contractor shall further guarantee for a period of 24 months that any building or buildings, constructed under this Project, shall be watertight and leak proof at every point and in

every area, except where leaks can be attributed to damage to the building by external forces other than storm or foundation settlement. He shall, immediately upon notification by the Owner of water penetration, determine the source of water penetration and, at his own expense, do any work necessary to make the building watertight. He shall also, at his own expense, repair or replace any other damaged material to return the building or buildings to the original accepted condition.

4.6.4. In addition to the foregoing stipulations, the Contractor shall comply with all other guarantees and warranties referred to in any portions of the Contract Documents, the more stringent requirement governing. Unless otherwise specifically stated elsewhere in these Specifications, the date of beginning of all guarantee or warranty periods shall be the date of acceptance of the project.

4.6.5. If for any reason, the Contractor cannot guarantee any part of his work using material or construction methods which have been specified, or shown, he shall notify the Engineer in writing before Contracts are signed, giving reasons together with the name of product and data on substitutions he can guarantee. Should the Contractor fail to so notify the Engineer prior to the signing of Contracts, he will be held to have agreed to guarantee all Work specified or shown.

4.7. HANDLING AND DISTRIBUTION:

4.7.1. The Contractor shall handle, haul and distribute all materials and all surplus materials on the different portions of the work as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until the final completion and acceptance of the work.

4.7.2. Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

4.8. MANUFACTURER'S DIRECTIONS:

4.8.1. All manufactured articles, material and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturers, unless herein specified to the contrary.

4.8.2. If the specifications or plans are contrary to the manufacturer's directions, the manufacturer shall be contacted by the Contractor before proceeding with the work and the Engineer advised if the manufacturer has any objections to the specified application.

4.9. MATERIALS, SERVICES AND FACILITIES:

4.9.1. It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all labor, supplies and materials, tools, machinery,

equipment, transportation, supervision, temporary construction of any nature, and all other services, means and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the specified time.

4.9.2. Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection.

4.9.3. Materials, supplies and equipment shall be in accordance with samples submitted by the Contractor and approved by the Engineer.

4.10. MISCELLANEOUS ITEMS:

4.10.1. The work to be done by the Contractor, specified and enumerated under this Contract, shall include any minor details of the Work not specifically mentioned in the Specifications or shown on the Drawings, but obviously necessary for the proper completion of the Work, which shall be considered incidental and as being a part of and included with the Work for which prices are given in the Bid. The Contractor will not be entitled to any additional compensation therefor.

4.10.2. Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation or usable structure or plant, providing the indicated function, shall be furnished and installed without change in the contract price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight and other applicable characteristics as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the Engineer before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

4.10.3. MISTAKES OF CONTRACTOR: The Contractor shall promptly correct and make good any and all defects, damages, omissions, or mistakes, for which he and/or his agents, servants, employees or Subcontractors are responsible, and he shall pay to the Owner all costs, expenses, losses, and damages resulting therefrom or by reason thereof as determined by the Engineer.

4.11. PROTECTION AGAINST ELECTROLYSIS: Where dissimilar metals are used in conjunction with each other, or against concrete surfaces, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other approved materials.

4.12. RIGHT TO MATERIALS: Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials, equipment, apparatus and other items furnished after they have been installed or incorporated in or attached or affixed to the work or the site, but all such materials, equipment, apparatus and other items shall, upon being so installed, incorporated, attached or affixed, become the property of the Owner.

4.13. ROYALTIES AND PATENTS: The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has information that the process or article specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner in writing.

4.14. SUBMITTAL SCHEDULE:

4.14.1. Within 20 days after execution and delivery of the Contract, the Contractor shall prepare and deliver to the Engineer a Submittal Schedule. This includes a list of all submittals required under the Contract. The list shall identify each major group of shop drawings, coordination drawings and schedules and each sample and the planned submission date for each.

4.14.2. After the Engineer's review of the list of submittals, the Engineer will meet with the Contractor for a joint review and correction and adjustment, as necessary, for agreement on the submittal. In addition, at the meeting the duration of the review period for each submittal will be established. The Contractor's planned submission date for each submittal shall allow no less than 15 working days for review and appropriate action before approval of the submittal becomes critical to the progress of the Contractor's work. Within five calendar days after the joint review, the Contractor shall make any necessary revisions to the list of submittals, including duration of the review periods, in accordance with the agreements reached during the joint review and submit two revised copies to the Engineer. No application for partial payment will be approved until the submitted schedule is approved.

4.15. SHOP DRAWINGS:

4.15.1. Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor, and which illustrate some portion of the Work. It shall be the Contractor's responsibility to furnish Shop Drawings as required by the technical specifications or as requested by the Engineer. These submittals must be made no later than is required by the submittal schedule.

4.15.2. Shop Drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the contract.

4.15.3. When so specified or if considered by the Engineer to be acceptable, manufacturer's specifications, catalog data, descriptive manner, illustrations, etc., may be submitted for approval in place of shop and working drawings. In such case the requirements shall be as specified for

shop and working drawings, insofar as applicable except that the submission shall be in quadruplicate.

4.15.4. The Contractor shall be responsible for the prompt and timely submittal of all shop and working drawings so that there shall be no delay to the work due to the absence of such drawings.

4.15.5. The Contractor shall check the Shop Drawings, shall coordinate them (by means of coordination drawings wherever required) with the work of all trades involved before submission and shall indicate thereon his approval. Drawings and schedules submitted without evidence of the Contractor's approval may be returned for resubmission.

4.15.6. By approving and submitting Shop Drawings, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each Shop Drawing with the requirements of the Work and of the Contract Documents.

4.15.7. If drawings or schedules show variations from the contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, the Engineer may approve any or all such variations and issue an appropriate change order. If the Contractor fails to describe such variations he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings or schedules may have been approved.

4.15.8. Each Shop Drawing or Coordination Drawing shall have a blank area 5 by 5 inches located adjacent to the title block. The title block shall display the following:

- (1) Number and Title of Drawing
- (2) Date of Drawing
- (3) Revision number and date (if applicable)
- (4) Project Title
- (5) Name of project building or facility
- (6) Name of Contractor
- (7) Name of Subcontractor (if applicable)
- (8) Clear identity of contents and location of work

4.15.9. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. All drawings which are correct shall be marked with the date, checker's name, and indication of the Contractor's approval, and then shall be submitted to the Engineer; other drawings shall be returned for correction.

4.15.10. The Contractor shall stamp all drawings which are to be submitted to the Engineer for approval. The rubber stamp shall incorporate the following items:

PROJECT TITLE Subertown Road/Gary Street Sidewalk Project CDBG Project # 4-CE-22-009

CONTRACTOR'S NAME _____

APPROVED BY _____ DATE _____

SPECIFICATION SECTION _____TRANSMITTAL NO. _____

4.15.11. The review of Shop Drawings will be general only and shall not relieve or in any respect diminish the responsibility of the Contractor for details of design, dimensions, etc., necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.

4.15.12. Should the Contractor submit for approval equipment that requires modifications to the structures, piping, layout, etc., detailed on the Drawings, he shall also submit for approval details of the proposed modifications. If such equipment and modifications are approved, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications. Required structural changes shall be designed and detailed by an Engineer registered in the state in which the project will be constructed. Drawings shall be signed and show registration numbers or may have seal affixed.

4.15.13. Submission of Shop Drawings shall be accompanied by a copy of a transmittal letter containing Project name, Contractor's name, number of drawings, titles, specifications section, and other pertinent data. The submittal shall include four (4) legible copies of Shop Drawings or printed matter

4.15.14. The review of Shop Drawings will be performed by the Engineer as follows:

4.15.14.a. When the submittal conforms fully with the Contract Drawings and Specifications, the Engineer will approve it. The reproducible of each drawing or page of approved submittals will be stamped approved, signed, dated and returned to the Contractor. No changes shall be made to approved drawings by the Contractor. If the Contractor desires to make any change from approved drawings, or pages of approved submittals, he shall notify the Engineer in writing that the approved material has been withdrawn and shall submit the substitution set in accordance with the above procedure.

4.15.14.b. When the submittal clearly does not conform with the Contract Drawings and Specifications, the Engineer will disapprove it by stamping it "Rejected". Rejected submittals shall be corrected and resubmitted within 14 calendar days from the date of rejection. Submittals that are rejected shall not be released for any work.

4.15.14.c. When the submittal has only minor deviations from the Contract Drawings and Specifications, the Engineer will note the deviations and omissions as may be appropriate and approve the submittal subject to the notations by stamping it "Approved as Noted". Approved as Noted submittals may be released for fabrication of work at the Contractor's risk; in any event

the submittal shall be corrected and resubmitted for approval within 14 calendar days from the date of approval as noted.

4.15.15. The Contractor shall be responsible for delays resulting from the rejection or approval as noted of incomplete, inadequate, incorrect or otherwise unacceptable submittals.

4.15.16. The Contractor shall assure that only drawings and pages of printed material bearing the Engineer's "Approved" stamp are allowed on the job site.

4.15.17. The Contractor shall submit, at the completion of the Project, one set of all reviewed and correct shop drawings, catalog cuts, and descriptive literature for all Work previously submitted. These sets shall be sent to the Engineer for the Owner before final Certificate of Payment is issued.

4.16. OPERATING AND MAINTENANCE MANUALS: One copy of each required Operating and Maintenance Manual must be submitted to the Engineer with the first submittal of shop drawings. Five additional copies of each required Operating and Maintenance Manual must be submitted to the Engineer within 14 days of the return of approved shop drawings to the Contractor. No payment will be approved on any equipment for received by the Engineer. These O&M manuals must be addressed specifically to the piece of equipment supplied and shall not be general in nature; each item must be clearly identified and located. Each page must be printed on 8-1/2" x 11" paper or folded to that size in a manner suitable for insertion in a 3-ring binder.

4.17. SAMPLES:

4.17.1. Samples are physical examples furnished by the Contractor to illustrate materials, equipment or workmanship, and to establish standards by which the Work will be judged. It shall be the Contractor's responsibility to furnish samples as required by the technical specifications or as required by the Engineer. These samples must be submitted no later than is required by the Submittal Schedule.

4.17.2. Each sample shall have a label indicating:

- (1) Project Title
- (2) Name of project building or facility
- (3) Name of Contractor
- (4) Name of Subcontractor (if applicable)
- (5) Identification of material with specification section
- (6) Name of producer and brand (if any)

4.17.3. Samples shall be submitted in duplicate unless otherwise noted in the technical specifications and shall be accompanied by a copy of a transmittal letter containing Project Name, Contractor's Name, number of samples, specification section and other pertinent data.

4.17.4. If the Engineer so requires, either prior to or after commencement of the work, the Contractor shall submit samples of materials for such special tests as the Engineer deems necessary to demonstrate that they conform to the Specifications. Such samples shall be furnished, taken, stored, packed and shipped by the Contractor as directed. Except as otherwise expressly specified, the Contractor shall make arrangements for, and pay for, the tests.

4.17.5. All samples shall be packed so as to reach their destination in good condition. To insure consideration of samples, the Contractor shall notify the Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. The letter of notification shall be sent separate from and should not be enclosed with the samples.

4.17.6. The Contractor shall submit data and samples, or place his orders, sufficiently early to provide ample time for consideration, inspection, testing, and approval before the materials and equipment are needed for incorporation in the work. The consequences of his failure to do so shall be the Contractor's sole responsibility.

4.17.7. In order to demonstrate the proficiency of workmen, or to facilitate the choice among several textures, types, finishes, surfaces, etc., the Contractor shall provide such samples of workmanship of wall, floor, finish, etc., as may be required.

4.17.8. When required, the Contractor shall furnish to the Engineer triplicate sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.

4.18. STORAGE OF MATERIALS AND EQUIPMENT: All excavated materials, construction equipment, and materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly piled and compactly stored in such locations as will cause a minimum of inconvenience to public travel and adjoining Owners, tenants and occupants.

4.19. INSPECTION AND TESTING:

4.19.1. All materials and equipment used in the construction of the Project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

4.19.2. The General Contractor shall provide all inspection and testing services not required by the Contract Documents.

4.19.3. The Contractor shall provide at his expense the testing and inspection services required by the County of Newberry and the Contract Documents.

4.19.4. If the Contract Documents, laws, ordinance, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved

by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer the required certificates of inspection, testing or approval.

4.19.5. Inspections, tests, or approvals by the Engineer or others shall not relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

4.19.6. The Engineer and his representatives will at all times have access to the Work. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, an other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

4.19.7. If any Work is covered contrary to the written instructions of the Engineer it must, if requested by the Engineer, be uncovered for his observation and replaced at the Contractor's expense.

4.19.8. If the Engineer considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate Change Order shall be issued.

4.20. SUBSTITUTIONS:

4.20.1. The Contractor may recommend the substitution of a material, article, or piece of equipment of equal function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the Engineer, such material, article, or piece of equipment is of equal function to that specified, the Engineer may approve its substitution and use by the Contractor. Any cost differential shall be deductible from the Contract Price and the Contract Documents shall be appropriately modified by Change Order.

4.20.2. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time.

4.21. "OR EQUAL" CLAUSE:

4.21.1. The phrase "or equal" shall be construed to mean that material or equipment will be acceptable only when in the judgement of the Engineer they are composed of parts of equal quality, or equal workmanship and finish, designed and constructed to perform or accomplish the desired result as efficiently as the indicated brand, pattern, grade, class, make or model.

4.21.2. Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard of quality and function; and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed, is, in the opinion of the Engineer, of equal substance and function. It shall not be purchased or installed by the Contractor without the Engineer's written approval.

4.22. WAGES AND OVERTIME COMPENSATION: The Contractor and each of his Subcontractors shall comply with all applicable State and local laws or ordinances with respect to the hours worked by laborers and mechanics engaged in work on the project and with respect to compensation for overtime.

4.23. NO WAIVER: Neither the inspection by the Owner or the Engineer, nor any order, measurement, approval, determination, decision or certificate by the Engineer, nor any order by the Owner for the payment of money, nor any payment for or use, occupancy, possession or acceptance of the whole or any part of the work by the Owner, nor the extension of time, nor any other act or omission of the Owner or of the Engineer shall constitute or be deemed to be an acceptance of any defective or improper work, materials, or equipment nor operate as a waiver of any requirement or provision of the Contract, or of any remedy, power or right of or herein reserved to the Owner, nor of any right to damages for breach of contract. Any and all rights and/or remedies provided for in the Contract are intended and shall be construed to be cumulative; and, in addition to each and every other right and remedy provided for herein or by law, the Owner shall be entitled as of right to a writ of injunction against any breach or threatened breach of the Contract by the Contractor, by his Subcontractors or by any other person or persons.

4.24. WORK TO CONFORM: During its progress and on its completion, the work shall conform truly to the lines, levels, and grades indicated on the Drawings or given by the Engineer and shall be built in a thoroughly substantial and workmanlike manner, in strict accordance with the Drawings, Specifications, and other Contract Documents and the directions given from time to time by the Engineer. All work done without instruction having been given therefor by the Engineer, without prior lines or levels, or performed during the absence of the Engineer, will not be estimated or paid for except when such work is authorized by the Engineer in writing. Work so done may be ordered uncovered or taken down, removed, and replaced at the Contractor's expense.

4.25. WORKING HOURS:

4.25.1. It is contemplated that all work will be performed during the customary working hours of the trades involved unless otherwise specified in this Contract. Work performed by the Contractor at his own volition outside such customary working hours shall be at no additional expense to the Owner.

4.25.2. Any requests received by the Contractor from occupants of existing buildings to change the hours of work shall be referred to the Owner for determination.

5. INSURANCE, LEGAL RESPONSIBILITY AND SAFETY

5.1. LITIGATION OF DISPUTES; JURISDICTION: The Owner and Contractor agree that this Contract shall be interpreted according to the Laws of the State of South Carolina, and that the appropriate forum and jurisdiction for resolving any disputes and claims shall be the South Carolina Court of Common Pleas for Lexington County.

5.2. ASSIGNMENTS: The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any monies 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 monies 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.

5.3. PERFORMANCE BOND AND PAYMENT BOND: Unless otherwise noted in the Supplemental Conditions, a Performance Bond and a Payment Bond are required. The Contractor shall obtain a Performance Bond and Payment Bond, acceptable to the Owner in a surety company authorized to do business in the state in which the Project is constructed, each for the full amount of the Contract Sum. The bonds shall guarantee the Contractor's faithful performance of the Contract and the payment of all obligations arising thereunder. The bonds shall remain in force until:

5.3.1. The Project has been completed and accepted by the Owner.

5.3.2. The provisions of all guarantees required by these Contract Documents have been fulfilled or the time limitation for all guarantees has expired, or

5.3.3. The time for the filing of all mechanics' liens has expired, whichever is longer, after which it shall become void.

5.3.4. The Contractor shall pay all charges in connection with the bonds as a part of the Contract. One executed copy of the bonds shall be attached to each copy of the Contract before they are returned to the Engineer for the Owner's signature.

5.3.5. If the Contractor defaults, the Contractor or his Surety shall reimburse the Owner for any additional Engineering fees for additional services made necessary because of the Contractor's default.

5.4. ADDITIONAL OR SUBSTITUTE BOND: If at any time the Owner for justifiable cause, shall be or become dissatisfied with the surety or sureties for the Performance and/or Payment Bonds, the Contractor shall within 5 days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the Owner.

5.5. CHANGES NOT TO AFFECT BONDS: It is distinctly agreed and understood that any changes made in the Work or the Drawings or Specifications therefor (whether such changes increase or decrease the amount thereof or the time required for its performance) or any changes in the manner or time of payments made by the Owner to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the Surety on the Contract Bonds given by the Contractor, it being the intent hereof that notwithstanding such changes the liability of the Surety on said bonds continue and remain in full force and effect.

5.6. COMPLIANCE WITH LAWS:

5.6.1. The law of the place where the Project is located shall govern the Contract. The Contractor shall abide by all local and State Laws or ordinances to the extent that such requirements do not conflict with Federal laws or regulations. The Contractor shall keep himself fully informed of all existing and future Federal, State and local laws, ordinances, rules and regulations affecting those engaged or employed on the work, the materials and equipment used in the work or the conduct of the work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same, including, but not limited to the U. S. Department of Labor and Bureau of Standards Safety and Health Regulations for Construction and its amendments as set up under the Williams-Steiger Occupational Safety and Health Act of 1970. If any discrepancy or inconsistency is discovered in the Drawings, Specifications or other Contract Documents in relation to any such law, ordinance, rule, regulation, order, decree or other requirement, the Contractor shall forthwith report the same to the Engineer in writing.

5.6.2. The Contractor shall at all times observe and comply with, and cause all his agents, servants, employees, and Subcontractors to observe and comply with all such existing requirements, and he shall protect, indemnify and save harmless the Owner, its officers, agents, servants, and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgements, penalties, losses, damages, costs and expenses, including attorney's fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulations, order, decree, or other requirement, whether committed by the Contractor or any of his agents, servants employees, or Subcontractors.

5.7. REQUIRED PROVISIONS DEEMED INSERTED: Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the Contract shall forthwith be physically amended to make such insertion or correction.

5.8. LIENS: If at any time any notice of liens are filed for labor performed or materials or equipment manufactured, furnished, or delivered to or for the Work, the Contractor shall, at its own cost and expense, promptly discharge, remove or otherwise dispose of the same, and until such discharge, removal or disposition, the Owner shall have the right to retain from any monies payable hereunder an amount which, in its sole judgement, it deems necessary to satisfy such liens and pay the costs and expenses, including attorney's fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof.

5.9. CLAIMS: If at any time there be any evidence of any claims for which the Contractor is or may be liable or responsible hereunder, the Contractor shall promptly settle or otherwise dispose of the same, and until such claims are settled or disposed of, the Owner may retain from any monies which would otherwise be payable hereunder so much thereof as, in its judgement, it may deem necessary to settle or otherwise dispose of such claims and to pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce such claims, or incurred in connection therewith or by reason thereof.

5.10. INSURANCE:

5.10.1. 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 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.

5.10.2. The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after 10 days notice in writing and delivered by registered mail to the Owner." Should any policy be canceled 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.

5.10.3. Any insurance bearing on adequacy of performance shall be maintained after completion of the project for the full guaranty period. Should such insurance be canceled 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.

5.10.4. 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.

5.10.5. The Contractor is required to obtain and maintain for the full period of the Contract the following types of insurance coverage with limits not less than stated below:

5.10.6. WORKMEN'S COMPENSATION INSURANCE

As required by applicable State or territorial law for all of his employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.

5.10.7 COMPREHENSIVE GENERAL LIABILITY

	<u>Bodily Injury Per Person</u>	<u>Bodily Injury Per Accident</u>	<u>Property Damage</u>
Premises and Operations	\$1,000,000	\$1,000,000	\$1,000,000
Elevator Liability	\$1,000,000	\$1,000,000	\$1,000,000
Products Liability, Including Completed Operations Coverage	\$1,000,000	\$1,000,000	\$1,000,000

5.10.8 COMPREHENSIVE AUTOMOBILE LIABILITY

All Owner Automobiles	\$1,000,000	\$1,000,000	\$1,000,000
Non-Owned Automobiles	\$1,000,000	\$1,000,000	\$1,000,000
Hired Car Coverage	\$1,000,000	\$1,000,000	\$1,000,000

5.10.9 SUBCONTRACTOR'S LIABILITY INSURANCE

Same limits as required of the General Contractor.

5.11. ORAL AGREEMENTS: 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.

5.12. SAFETY: In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the work. This requirement will apply continuously 24 hours per day until acceptance of the work by the Owner and shall not be limited to normal working hours.

5.13. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

5.13.1. All employees on the Work and all other persons who may be affected thereby;

5.13.2. All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of Subcontractors or Sub-subcontractors; and

5.13.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

5.14. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Owners and users of adjacent utilities.

5.15. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner and the Engineer.

5.16. The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

6. PROGRESS AND COMPLETION OF WORK

6.1. NOTICE TO PROCEED: Following the execution of the Agreement 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.

6.2. CONTRACT TIME: The Contractor shall complete, in an acceptable manner, all of the work contracted for in the time stated in the Agreement. Computation of Contract Time shall commence the day to be specified in the Notice to Proceed and every calendar day following, except as herein provided, shall be counted as Contract Time.

6.3. SCHEDULE OF COMPLETION: The Contractor shall submit, at such times as may reasonably be requested by the Engineer, schedules showing the order in which the Contractor proposes to carry on the work, with dates at which the Contractor will start the various parts of the work, and estimated date of completion of each part.

6.4. WORK CHANGES: The Owner may, as the need arises, order changes in the work through additions, deletions, or modifications to the extent of 25 percent of the Contract Amount, without invalidating the Contract. Compensation and time of completion affected by the change shall be adjusted at the time of ordering such change.

6.5. EXTRA WORK: New and unforeseen items of work found to be necessary, and which cannot be covered by an item or combination of items for which there is a Contract Price, shall be classed as 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. 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. Extra Work required in an emergency to protect life and property shall be performed by the Contractor as required.

6.6. EXTENSION OF CONTRACT TIME:

6.6.1. 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 an 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.

6.6.2. Act of God shall mean an earthquake, flood, cyclone or other cataclysmic phenomenon of nature. Rain, wind, flood, or other natural phenomenon of normal intensity for the locality shall not be construed as an Act of God and no reparation shall be made to the Contractor damages to the work resulting therefrom.

6.6.3. All claims for extension of time shall be made in writing to the Engineer no more than 20 days after the occurrence of the delay; otherwise they shall be waived. In the case of continuing cause of delay only one claim is necessary. Any claim should include complete justification for the extent of the delay claimed.

6.6.4. This Subsection does not exclude the recovery of damages for delay for either party under other provisions of the Contract Documents.

6.7. ENGINEER'S CERTIFICATE OF SUBSTANTIAL COMPLETION: When the work to be performed under this Contract is substantially completed in accordance with the Contract Documents, the Engineer shall prepare an Engineer's Certificate of Substantial Completion to be acknowledged and accepted by the Owner and the Contractor. The Certificate may list items to be completed or corrected but such Certificate shall not relieve the Contractor of his obligation to complete all work, whether listed or not, in accordance with the Contract Documents nor will it preclude any right the Owner may have for recourse in accordance with the Contract Documents.

6.8. TERMINATION OF CONTRACTOR'S RESPONSIBILITY: The Contract will be considered complete when all work has been finished, the final review made up by the Engineer, and the project accepted in writing by the Owner. The Contractor's responsibility shall then cease, except as set forth in his Performance Bond, as provided in Subsection 4.6 entitled GENERAL GUARANTY, and as provided in Subsection 6.9 entitled CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT.

6.9. CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT: 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 discovered within one year, except where longer periods are specified, from the date of written acceptance of the work.

6.10. PROGRESS SCHEDULE:

6.10.1. Within 20 days after execution and delivery of the Agreement and not less than 10 days prior to making an application for partial payment, the Contractor shall prepare and deliver to the Engineer a Progress Schedule on forms approved by the Engineer.

6.10.2. The schedule shall be set up in a Critical Path format and shall show the proposed dates of commencement and completion of the various subdivisions of work required under the Contract Documents.

6.10.3. The schedule shall show the dates of commencement and completion of the various subdivisions of work required by the Contract Documents and all activities required to accomplish the work. No activity included in the schedule shall have a duration greater than fifteen (15) days. After approval of the Submit Schedule, the Contractor shall incorporate this schedule into the CPM schedule.

6.10.4. The schedule shall be updated monthly. No progress payments will be made unless application is accompanied by the updated schedule.

6.11. SCHEDULES, REPORTS AND RECORDS:

6.11.1. The Contractor shall submit to the Owner such schedules of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the Contract Documents for the Work to be performed.

6.11.2. The Contractor shall also submit, in a format as approved by the Engineer, a schedule of payments that he anticipates he will earn during the course of the Work.

6.12. ABANDONMENT OF WORK OR OTHER DEFAULT:

6.12.1. If the work shall be abandoned, or any part thereof shall be sublet without previous written consent of the Owner, or the Contract or any monies payable hereunder shall be assigned otherwise than as herein specified, or if at any time the Engineer shall be of the opinion, and shall so certify in writing, that the conditions herein specified as to rate of progress are not being complied with, or that the work or any part thereof is being unnecessarily or unreasonably delayed, or that the Contractor has violated or is in default under any of the provisions of the Contract, or if the Contractor becomes bankrupt or insolvent or goes or is put into liquidation or dissolution, either voluntarily or involuntarily, or petitions for an arrangement or reorganization under the Bankruptcy Act, or makes a general assignment for the benefit of creditors or otherwise acknowledges insolvency, the happening of any of which shall be and constitute a default under the Contract, the Owner may notify the Contractor in writing, with a copy of such notice mailed to the Surety, to discontinue such work or any part thereof; thereupon the Contractor shall discontinue such work or such part thereof as the Owner may designate; and the Owner may, upon giving notice, by contract or otherwise as it may determine, complete the work or such part thereof and charge the entire cost and expense of so completing the work or such part thereof to the Contractor. In addition to the said entire cost and expense of completing the work, the Owner shall be entitled to reimbursement from the Contractor and the Contractor agrees to pay the Owner any losses, damages, costs and expenses, including attorney's fees, sustained or incurred by the Owner by reasons of any of the foregoing causes. For the purposes of such completion the Owner may for itself or for any Contractors employed by the Owner take possession of any and use or cause to be used any and all materials, equipment, plant, machinery, appliances, tools, supplies and such other items of every description that may be found or located at the site of the Work. No equipment or materials may be removed from the Work without the written consent of the Owner.

6.12.2. All costs, expenses, losses, damages, attorney's fees and any and all other charges incurred by the Owner under this Subsection shall be charged against the Contractor and deducted and/or paid by the Owner out of any monies due or payable or to become due or payable under the Contract to the Contractor; in computing the amounts chargeable to the Contractor, the Owner shall not be held to a basis of the lowest prices for which the completion of the work or any part thereof might have been accomplished, but all sums actually paid or obligated therefor to effect its prompt completion shall be charged to and against the account of the Contractor. In case the costs, expense, losses, damages, attorney's fees and other charges together with all payments theretofore made to or for the account of the Contractor are less than the sum which would have been payable under the Contract if the work had been properly performed and completed by the Contractor, the Contractor shall be entitled to receive the difference and, in case such costs, expenses, losses, damages, attorney's fees and other charges, together with all payments theretofore made to or for the account of the Contractor, shall exceed the said sum, the Contractor shall pay the amount of the excess to the Owner.

7. PAYMENTS TO THE CONTRACTOR

7.1. PRICES FOR WORK: The Owner shall pay and the Contractor shall receive the prices stipulated in the Bid made a part hereof as full compensation for everything performed and furnished and for all risks and obligations undertaken by the Contractor under and as required by the Contract.

7.2. SCHEDULE OF VALUES: Except in cases where unit prices form the basis for payment under the Contract, the Contractor shall, within 20 days of the execution of the Contract and not less than 10 days prior to making an application for partial payment, submit to the Owner in a form approved by the Owner a schedule of values showing a breakdown of the Contract Sum itemized by trade and/or specification sections or as otherwise directed by the Owner and for each item shall show the total value including the Contractor's overhead and profit. Upon approval by the Owner, this schedule will be used in determining the value of the work done for the purpose of partial payments. The costs employed in making up any of these schedules will be used only for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the Contract Price.

7.3. APPLICATIONS FOR PARTIAL PAYMENT:

7.3.1. Before the first day of each month, or as otherwise directed by the Owner, the Contractor shall make applications for the value of the work done and the materials installed and/or delivered to the site for installation in the project during the previous month. Such applications shall show the breakdown of the project into the same items as the schedule of values specified in Subsection 7.2 entitled SCHEDULE OF VALUES and showing for each item the total value, the value previously reported as complete, the value completed during the month, the cumulative value completed and the value remaining to be done. The application shall also show the value of materials delivered to the site which have not been incorporated into the work and whose value is not included in the amount shown for the work of which they are a part. The value of such materials shall be established by attaching copies of invoices covering the materials to the application. The application shall include a summary of value of the work performed during the previous month, plus the value of the material delivered to the job site but not incorporated in the work, and minus the amount of the retainage indicated in Subsection 7.4 entitled RETAINAGE.

7.3.2. The Engineer will, within 10 days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the Owner, or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate.

7.4. RETAINAGE: The Owner shall retain 10 percent of the amount of each payment until final completion and acceptance of all work covered by the Contract Documents. The Owner at any time, however, after 50 percent of the work has been completed, if he finds that satisfactory progress is being made, will make further partial payments in full on the current and remaining

estimates, but amounts previously retained shall not be paid to the Contractor at 50 percent completion or any time thereafter when, in the opinion of the Engineer, the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10 percent of the value of the work completed. Upon substantial completion of the work, any amount retained may be paid to the Contractor. When the Work has been substantially completed except for Work which cannot be completed because of weather conditions, lack of materials or other reasons which in the judgment of the Owner are valid reasons for non- completion, the Owner may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the Work still to be completed.

7.5. PAYMENTS WITHHELD:

7.5.1. The Owner may withhold payment or, on account of subsequently discovered evidence, nullify the whole or part of any application to the extent necessary to protect himself from loss on account of:

7.5.1.a. Defective work not remedied.

7.5.1.b. Claims filed or reasonable evidence indicating the probably filing of claims.

7.5.1.c. Failure of the Contractor to make payments to Subcontractors, material suppliers, or employees.

7.5.1.d. A reasonable doubt that the Contract work can be completed for the balance unpaid.

7.5.1.e. Damage to another Contractor.

7.5.2. When the above grounds are removed, payment will be made for the amounts withheld because of them.

7.6. PAYMENT OF APPLICATIONS FOR PARTIAL PAYMENT: Upon verification and approval of the application for partial payment made as specified, the Owner will make payment of the amount found properly due. No payment made to the Contractor nor partial or entire use or occupancy of the Work by the Owner shall be an acceptance of any work or materials not in accordance with this Contract.

7.7. FINAL INSPECTION: Upon receipt of written notice from the Contractor that the work has been completed and finished in accordance with the Contract, the Owner shall cause an inspection to be made of the work by his authorized representatives. A list shall be made of all deviations from the Contract requirements (commonly termed "punch list") and a copy of such list furnished to the Contractor. The Contractor shall with reasonable haste remedy all defects so noted and shall notify the Owner upon the completion of such work. When inspection by the Owner's authorized representatives shows the work to be complete in accordance with the Contract, application for final payment may be made.

7.8. RELEASE OF LIENS: Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver to the Owner a complete and notarized release of all liens arising out of this Contract, or receipts in full in lieu thereof, and if required in either case, an affidavit that so far as he had knowledge of information the releases and receipts include all the labor and material for which a lien could be filed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

7.9. USE OR PARTIAL PAYMENT NOT ACCEPTANCE: It is agreed that this is an entire contract for one whole and complete work or result and that neither the Owner's entrance upon or use of the Work or any part thereof nor any partial payments by the Owner shall constitute an acceptance of the Work or any part thereof before its entire completion and final acceptance.

7.10. PAYMENT FOR UNCORRECTED WORK: Should the Owner direct the Contractor not to correct work that has been damaged or that was not performed in accordance with the Contract Documents, an equitable deduction from the Contract Amount shall be made to compensate the Owner for the Uncorrected Work.

7.11. PAYMENT FOR REMOVAL OF REJECTED WORK AND MATERIALS:

7.11.1. The removal of work and materials rejected in accordance with Subsection 4.3 entitled CORRECTION OF WORK BEFORE COMPLETION and the re-execution of acceptable work by the Contractor shall be at the expense of the Contractor, and he shall pay the cost of replacing the work of other Contractors destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement of acceptable work.

7.11.2. Removal of rejected work or materials and storage of materials by the Owner, in accordance with Subsection 4.3 entitled CORRECTION OF WORK BEFORE COMPLETION, shall be paid by the Contractor within 30 days after written notice to pay is given by the Owner. If the Contractor does not pay the expenses of such removal and after 10 days' written notice being given by the Owner of his intent to sell the materials, the Owner may sell the materials at auction or at private sale and will pay the Contractor the net proceeds therefrom after deducting all the costs and expense that should have been borne by the Contractor.

7.12. PAYMENT FOR EXTRA WORK: 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:

7.12.1. Unit price or combinations of unit prices which form the basis of the original Contract.

7.12.2. A lump sum based on the Contractor's estimate and accepted by the Owner.

7.12.3. Net cost plus a fixed fee. Net costs are defined as follows:

7.12.3.a. Labor costs, including time of foreman while engaged directly upon extra work at rates not greater than the scale of rates for each respective classification of labor customary in the area where the work is performed for each respective job classification.

7.12.3.b. Labor insurance taxes including amounts paid on a percent of such labor rates or on a cents per hour basis for Workmen's Compensation, Public Liability, Contractor's Contingent Liability and Contractual Liability Insurance and all Federal Old Age and Unemployment Taxes and any other taxes applicable as well as fringe benefits as may be approved by the Engineer.

7.12.3.c. Materials and supplies actually used on the work.

7.12.3.d. Rental charges for necessary equipment, as agreed upon by the Owner and Contractor. Rental charges shall not exceed those published in Rental Rates for Construction Equipment issued by the American Equipment Distributor. Equipment and tools having a value of \$100.00 or less are considered to be "small tools" and, as such, are considered to be part of overhead.

7.13. To the cost under Subparagraph 7.12.3 there shall be added a fixed fee to be agreed upon but not to exceed fifteen (15) percent of the estimated cost of the work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses. On work performed by Subcontractors, the fixed fee shall not exceed ten (10) percent of the cost of the work.

7.14. PAYMENT FOR WORK SUSPENDED BY THE OWNER: If the work or any part thereof shall be suspended by the Owner and abandoned by the Contractor as provided in Subsection 2.12 entitled SUSPENSION OF WORK, TERMINATION AND DELAY, the Contractor will then be entitled to payment for all work done on the portions so abandoned, plus 15 percent of the value of the abandoned work to compensate for overhead, plant expense, and anticipated profit. This does not relate to under run in quantities.

7.15. PAYMENT FOR WORK BY THE OWNER: The cost of the work performed by the Owner, in accordance with Subsection 2.10 entitled OWNER'S RIGHT TO DO WORK, shall be paid by the Contractor.

7.16. PAYMENT FOR WORK BY THE OWNER FOLLOWING TERMINATION OF CONTRACT BY OWNER: Upon termination of the Contract by the Owner in accordance with Subsection 2.11 entitled OWNER'S RIGHT TO TERMINATE CONTRACT, no further payment shall be due the Contractor until the work is completed. If the unpaid balance of the Contract Amount shall exceed the cost of completing the work including all overhead costs, the excess shall be paid to the Contractor. If the cost of completing the work shall exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The cost incurred by the Owner,

as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Owner.

7.17. PAYMENT FOR SAMPLES AND TESTING OF MATERIALS:

7.17.1. Samples furnished all SCDOT required materials and in accordance with Subsection 4.17 entitled SAMPLES, shall be furnished by the Contractor at his expense.

7.17.2. Testing of samples and materials required by SCDOT and furnished in accordance with Subsection 4.17 entitled SAMPLES, shall be arranged and paid for by the Contractor.

7.18. ACCEPTANCE AND FINAL PAYMENT:

7.18.1. When the Contractor shall have 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 Bond and the 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 for 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.

7.18.2. 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.

7.19. ACCEPTANCE OF FINAL PAYMENT AS RELEASE: The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the Owner and others relating to or arising out of this Work. Any payment, however, final or otherwise, shall not release the Contractor or his sureties from any obligations under the Contract Documents or the Performance Bond and the Payment Bond.

7.20. DELAYS AND DAMAGES:

7.20.1. The date of beginning and the time for completion of the Work are essential conditions of the Contract Documents and the Work embraced shall be commenced on a date specified in the Notice to Proceed.

7.20.2. The Contractor will proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed by and between the Contractor and the Owner that the Contract Time for the completion of the Work described

herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work. If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will insure its completion within the time specified in the Contract, or any extension thereof, or fails to complete said Work within such time, the Owner may, by written notice to the Contractor and his Surety, terminate his right to proceed with the Work or such part of the work as to which there has been delay. In such event the Owner may take over the Work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the Work is terminated, he and his sureties shall be liable for any damage to the Owner resulting from his refusal or failure to complete the Work within the specified time.

7.20.3. If fixed and agreed liquidated damages are provided in the Contract and if the Owner so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the Work together with any increased costs occasioned the Owner in completing the Work.

7.20.4. If fixed and agreed liquidated damages are provided in the Contract, and if the Owner does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the Work is completed or accepted.

7.20.5. The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

7.20.5.a. The delay in the completion of the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, Acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of Subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

7.20.5.b. The Contractor, within 10 days from the beginning of any such delay (unless the Owner grants a further period of time before the date of final payment under the Contract), notifies the Owner in writing of the causes of delay.

7.20.6. As used in subparagraph 1, above, the term "Subcontractors or suppliers" means Subs or suppliers at any time.

7.20.7. The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in these General Conditions. The rights and remedies of the Owner provided in this clause are in

addition to any other rights and remedies provided by law or under this Contract. This does not relate to under run in quantities.

(End of Section 01230)

1. CONFLICT OR INCONSISTENCY: If there is any conflict or inconsistency between the provisions of the SUPPLEMENTAL CONDITIONS and the GENERAL CONDITIONS, the provisions of the SUPPLEMENTAL CONDITIONS shall prevail. If there is conflict between the provisions of the GENERAL CONDITIONS and any of the Contract Documents other than the SUPPLEMENTAL CONDITIONS, the provisions of the GENERAL CONDITIONS shall prevail.

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

3. CONTRACTOR'S FIELD OFFICE: The Owner shall provide space for a field office if Contractor will utilize such office.

4. CONTRACT MODIFICATION: All changes which affect the cost of the construction of and contract modifications must be approved by the Owner prior to becoming effective. The contract change order will include extra work, work for which quantities have been altered from those shown in the bidding schedule as well as decreases or increases in the quantities of installed units which are different from those shown in the bidding schedule because of final measurements. All changes the project must be authorized by means of a contract change order. All change orders should be recorded on a contract change order as they occur so that they may be included in the partial payment estimate.

5. WATER/SEWER LINE SEPARATION: The horizontal and vertical separation of sewer lines and water mains must be in accordance with Section R61-58.4D (12) of the State Primary Drinking Water Regulations.

5.1 Parallel installation - Water mains shall be laid at least ten (10) feet horizontally from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, the Department may allow deviation on a case-by-case basis, if supported by data from the design engineer. Such deviation may allow installation of the water main closer to a sewer, provided that the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least eighteen (18) inches above the top of the sewer.

5.2 Crossings - Water mains crossing sewers shall be laid to provide a minimum vertical separation of eighteen (18) inches between the outside of the water main and the outside of the sewer. This shall be the case whether the water main is either above or below the sewer line. Whenever possible, the water main shall be located above the sewer line. Where a new water main crosses a new sewer line, a full length of pipe shall be used for both the water main and sewer line and the crossing shall be arranged so that the joints of each line will be as far as possible from the point of crossing and each other. Where a new water main crosses an existing sewer line, one full length of water pipe shall be located so both joints will be as far from the sewer line as possible. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer line to prevent damage to the water main.

5.2.1 Special Conditions - When it is impossible to obtain the distances specified in R.61-58.4(D)(12)(a) and (b) the Department may allow an alternative design. Any alternative design shall:

5.2.1.1 maximize the distances between the water main and sewer line and the joints of each;

5.2.1.2 use materials which meet the requirements R.61-58.4(D)(1) for the sewer line; and,

5.2.1.3 allow enough distance to make repairs to one of the lines without damaging the other.

5.2.2 Force mains - There shall be at least a ten (10) foot horizontal separation between water mains and sanitary sewer force mains. There shall be an eighteen (18) inch vertical separation at crossing as required in R.61-58.4(D)(12)(a) and (b).

5.2.3 Sewer manholes - No water pipe shall pass through or come in contact with any part of a sewer manhole. Water lines may come in contact with storm sewers or catch basins if there is no other practical alternative, provided that ductile iron is used, no joints of the water line are within the storm sewer or catch basin and the joints are located as far as possible from the storm sewer or catch basin.

5.2.4 Drain-fields and Spray-fields - Potable water lines shall not be laid less than twenty-five (25) feet horizontally from any portion of a waste-water tile-field or spray-field, or shall be otherwise protected by an acceptable method approved by the Department.

6. COMPUTATION OF QUANTITIES:

6.1 For estimating quantities in which the computation of areas by geometric methods would be comparatively laborious, it is agreed that a digitizer shall be considered an instrument of precision adapted to the measurement of such areas.

6.2 It is further agreed that the computation of the volume of prismoids shall be by the method of average end areas.

7. LIMITS OF NORMAL EXCAVATION:

7.1 In determining the quantities of excavation to which unit prices shall apply, the limits of normal width and depth of excavation shall be as described below, unless other limits are indicated on the Drawings or specified.

7.2 For pipes in trenches, the normal width of the trench shall be measured between vertical planes which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal inside diameter of the pipe. If the width so computed is less than three feet, a width of three feet shall be taken as the normal width for payment. The normal depth shall be measured to a distance of 0.2 foot below the bottom of the pipe in earth and 0.7 foot in rock, unless there be a cradle underneath the pipe; in which case the normal depth shall be measured to the underside of the cradle. The width of trench for the cradle shall be assumed to be that specified above for pipes in trenches.

7.3 For concrete placed directly against undisturbed earth, the normal width and depth of the excavation for such concrete shall be measured to the neat lines of the concrete as indicated on the Drawings or as ordered.

7.4 For concrete placed against rock surfaces resulting from rock excavation, the normal width and depth of the excavation shall be measured to 0.4 foot outside the neat lines of the concrete as indicated on the Drawings or as ordered.

7.5 For other structures, except manholes as noted below, the normal width shall be measured between vertical planes one foot outside the neat lines of the several parts of the structure, except that the width at any elevation shall be measured as not less than the width at a lower elevation. The normal depth shall be measured to the underside of that part of the structure for which the excavation is made.

7.6 No additional width or depth of trenches excavated in earth or rock shall be allowed at standard circular manholes.

7.7 Wherever bell holes are required for jointing pipe, they shall be provided without additional compensation over and above that resulting from measurements as above described.

8. FEDERAL SAFE DRINKING WATER ACT: In accordance with Section 1417 of this Act, any pipe, solder, or flux used in the installation or repair of public water systems and plumbing used for drinking water, must be lead free. Lead free is defined as less than 0.2 percent lead in solder and flux and less than 8.0 percent lead in pipes and fittings. Lead joints for the repair of cast iron pipes are not included. Lead shot and lead packers in well construction are no longer allowed.

9. WORK ON HIGHWAY RIGHT-OF-WAY: All work performed in roads and street crossings and all work performed on street or road rights-of-way shall be performed in accordance with "Policy for Accommodating Utilities on Highway Rights-of-Way", current issue, by the South Carolina Highway Department.

10. CONNECTIONS MADE TO EXISTING MAINS:

10.1 No existing main shall be cut, tapped, or otherwise disturbed without first obtaining permission in writing from the Owner to make that connection. At least 48 hours notice is required to obtain written approval.

10.2 Connections to mains shall be coordinated with the Office of the County Supervisor so that they are made during a period of low water demand and with a minimum of service interruption.

11. WATER SUPPLY:

11.1 Water supply for the purposes of flushing, disinfecting and pressure testing of the water line will be furnished by the Owner. It shall be the Contractor's responsibility to convey the water to any remote location that is required on the project.

11.2 The Contractor shall install a metering system that complies with AWWA C700 and shall pay the Owner for the water used

12. USE OF PREMISES: The Contractor shall confine his materials, equipment, and the operations of his employees, subcontractors, and suppliers to minimize interference with the Owner's normal operations being carried on in the existing plant and use of yards, roadways, trucking and parking areas. Where connection between new and existing work is necessary and requires shutting down of any existing facilities, services, or areas, these connections shall be made at such times and in such manner as the Owner may direct.

13. PERSONNEL FACILITIES: In order to minimize interference with the operations of the merchants, Contractor shall provide, if necessary, suitable facilities necessary for his personnel for use as lunch rooms, vending areas, first aid rooms, toilets, etc., and shall instruct and supervise his personnel to ensure that the facilities provided by the Owner for the use of its employees are not used by employees of the Contractor. All such personnel facilities provided by the Contractor shall be located adjacent to or within the area of the work.

14. PARKING AREAS: The Contractor shall secure suitable parking areas for his employees.

15. STATE AND LOCAL PERMITS, LICENSES, INSPECTIONS, CERTIFICATES: The Contractor shall obtain such required documents and pay the fees assessed for each division of work for which such permits, licenses, and inspections are required. The Contractor shall also obtain and pay the fees for general permits such as Building Permits and Certificate of Occupancy.

16. SIGNS:

16.1 The Owner reserves the right to all advertising privileges about the job and no signs shall be posted by the Contractor anywhere on the premises without approval by the Owner except

those signs, posters, or bulletins required by Federal, State, or local authorities. Directional signs identifying offices and/or storage areas of the Contractor may be erected as required to facilitate work, provided:

16.1.1 The Contractor shall submit to the Owner for approval a scale drawing or sketch of the proposed sign showing size, type of material, painting, and proposed location. All submittal data shall be in triplicate.

16.1.2 The size of the individual sign shall be not greater than 24 inches wide by 12 inches high.

16.1.3 Signs shall be neatly painted on weather-resistant materials.

16.1.4 The signs will be removed upon completion of the job.

16.1.5 No sign shall be erected prior to approval by the Owner.

17. OWNER'S INSURANCE AUTHORITY: During all phases of construction, the Contractor will be required to perform his operations so as to comply expeditiously with the recommendations of the Owner's Insurance Authority.

18. BUILDERS RISK INSURANCE: The Contractor shall procure and maintain during the life of this Contract, Builders Risk Insurance on an all risk basis, on a 100 percent completed value basis on the insurable portion of the project. The Owner, the Contractor, and Subcontractor (as their interest may appear) shall be named as the Insured.

19. FLOOD INSURANCE:

19.1 The Contractor must acquire any flood insurance made available to it under the National Flood Insurance Act of 1968 as amended beginning with the period of construction and maintain such insurance for the entire useful life of the project, if the total value of insurable improvements is \$10,000 or more.

19.2 The amount of insurance required is the total project cost, excluding facilities which are uninsurable under the National Flood Insurance Program such as bridges, dams, water and sewer lines, and underground structures, and excluding the cost of the land, or the maximum limit of coverage made available to the grantee under the National Flood Insurance Act, whichever is less.

20. PUBLICITY: All prime contractors and their subcontractors shall submit to the Owner for approval all publicity items, including photographs, relating to the work of this project. Owner shall approve any and all material prior to release for publication.

21. PROTECTION OF WORK: The Contractor shall at all times, until final acceptance of the work, provide protection of the work, either new or previously existing, from all hazards involved in his operations. All damage suffered by any item of work, including, but not limited

to, drains, curbs, doors, equipment, and structures, shall be repaired or the item shall be replaced prior to final acceptance.

22. SPECIAL PRECAUTIONS: At all times during the construction of the project and its component parts, the Contractor shall provide, install, and maintain proper temporary supports, shoring, and bracing to prevent any damage to the work due to all causes. When openings are made in the roof and/or exterior walls, suitable temporary weather tight closures shall be installed and maintained at all times when work is not in progress at that location.

23. SMOKING AND FIRE PROTECTION:

23.1 Smoking is absolutely forbidden except in such areas as the Owner shall designate. The Contractor shall confer with the Owner to determine the areas in which smoking is permitted. It is the responsibility of the Contractor to enforce "No Smoking" regulations in the restricted areas. The Owner will remove from the premises any person violating the smoking regulations.

23.2 Welding, flame cutting, or other operations involving the use of flame, arc, or sparking devices will not be allowed without adequate protection.

24. POWDER ACTUATED FASTENERS: Whether or not permitted by local code or ordinance, powder actuated fasteners may not be used except on specific approval of the Owner or the Engineer in writing.

25. COMPRESSED AIR: The Contractor shall furnish all compressed air and temporary piping required for the work. Where necessary to locate air compressors within the building, proper ventilation shall be supplied for the compressors. All costs of providing the compressed air shall be borne by the Contractor. No connection or use of the Owner's air supply will be permitted.

26. ELEVATION DATUM: The datum adopted by the Engineer is NGVD 29. All elevations shown on the Drawings or referred to in these specifications refer to this datum.

27. PROPERTY OUTSIDE OF RIGHT-OF-WAY WITHOUT SLOPE PERMISSIONS:

27.1 The Contractor will not encroach on any property unless it has been established that permissions have been obtained. On all other land, the Contractor has no rights unless he obtains permission from the proper parties.

28. OCCUPYING PRIVATE LAND: The Contractor shall not (except after written consent from the proper parties) enter or occupy with men, tools, or materials, any land outside the rights-of-way of property of the Owner. A copy of the written consent shall be given to the Engineer.

29. WORK IN STATE AND CITY RIGHTS-OF-WAY:

29.1 Attention is directed to the fact that work will be going on in both Town and State highway rights-of-way. The Owner has obtained permission for the Contractor to encroach on these rights-of-way for work.

29.2 The Contractor will be required to conform to the requirements of the South Carolina Department of Transportation, (SCDOT) and the Town of Whitmire while working within the rights-of-way.

30. SCDHEC DISTRICT ENGINEER INSPECTION: All of the work constructed on this project is subject to the inspection and approval by the South Carolina Department of Health and Environmental Control District Engineer. This inspection and acceptance is in addition to inspection and acceptance of the Engineer.

31. WORK ADJACENT TO TELEPHONE, POWER AND GAS COMPANY STRUCTURES: Where work is being performed within the Telephone Company or electric and gas company rights-of-way, the Owner has acquired, or will acquire, permission from these agencies to construct facilities within their rights-of-way or easements. In all cases where work is being performed near Telephone Company or electric or gas company facilities, the Contractor will notify the respective companies of areas in which work is being performed.

32. WORK BEING PERFORMED NEAR WATER LINES: The Contractor will inform the Town as to the areas where work is being performed. It is required of a Contractor to obtain permission from the Department of Public Utilities where alterations to their system are required.

33. TRAFFIC CONTROL:

33.1 The Contractor will comply with the Manual on Uniform Traffic Control Devices, 2009 edition or the latest version published by the Federal Highway Administration. Provide traffic control as required and approved by the South Carolina Department of Highways and Public Transportation.

33.2 Upon completion and acceptance of the work or as the need for temporary traffic control devices ceases, they shall be removed by the Contractor and shall remain the property of the Contractor.

33.3 Signs shall be used where warranted to maintain traffic or to call attention to conditions on, or adjacent to, the construction work. Such signs shall be removed when they are no longer required.

33.4 All traffic control and marking devices shall be in accordance with the provisions of the "State of South Carolina Uniform Manual on Traffic Control Devices". Upon completion and acceptance of the work or as the need for temporary traffic control devices ceases, they shall be removed by the Contractor and shall remain the property of the Contractor.

33.5 Signs shall be used where warranted to maintain traffic or to call attention to conditions on, or adjacent to, the construction work. Such signs shall be removed when they are no longer required.

34. LINES, GRADES AND MEASUREMENTS:

34.1 The Contractor shall employ, at his own expense, a competent civil engineer or land surveyor who shall be registered in South Carolina and who shall be thoroughly experienced in field layout work. Said Engineer shall establish all lines, elevations, reference marks, etc., needed by the Contractor during the progress of the work, and from time to time he shall verify such marks by instrument or by other appropriate means. The Owner's Engineer may waive the requirement for the Engineer to be registered in South Carolina upon a presentation of a resume which is satisfactory. The waiving of this requirement may be revoked at any time by the Owner's Engineer.

34.2 Alignment and grade of all pipe, tunnels, and borings shall be continuously controlled by use of lasers established through the pipe or casing, not transferred from another medium. The Contractor shall furnish lasers and accessories as required and approved by the Engineer. The Contractor's Engineer will set and check each laser each day that work is in progress or more often as required to assure continuous accurate control.

34.3 The Contractor's Engineer responsible for lines and grades shall verify to the Owner in writing that work has been constructed to lines and grades as shown on the Drawings. This certification shall accompany each request for payment.

34.4 The Owner's Engineer shall be permitted at any time to check the lines, elevations, reference marks, lasers, etc., set by the Engineer employed by the Contractor, and the Contractor shall correct any errors in lines, elevations, reference marks, lasers, etc., disclosed by such check. Such a check shall not be construed to be an approval of the Contractor's work and shall not relieve the Contractor of the responsibility for the accurate construction of the entire work.

34.5 The Contractor shall make all measurements and check all dimensions necessary for the proper construction of the work called for by the Drawings and Specifications. During the prosecution of the work, he shall make all necessary measurements to prevent misfitting in said work, and he shall be responsible therefore, and for the accurate construction of the entire work.

34.6 The Owner's Engineer shall have access to all field notes. Field notes will be recorded in bound field books, and carbon copies given the Owner's Inspector at the close of each shift.

35. CITY BUSINESS LICENSE: The successful Bidder and all subcontractors will be required to obtain a business license from the Town of Whitmire prior to beginning work, if said Bidder does not have a current license.

36. UTILITY LOCATIONS: Prior to beginning any excavation, the Contractor shall notify all public utility companies and have their lines located and marked. The following is a list of utility companies and persons to be contacted for utility locations.

UTILITY SERVICE
OR FACILITY

PERSON TO CONTACT
(NAME, TITLE, & PHONE NO.)

Electric, Gas,

Telephone

Cable TV

Sewer

Water

for all utilities, call:

Palmetto Utility Protection Service

8-1-1

or, 1-888-721-7877

Town of Whitmire Water

Gene Whelchel

Town Supervisor – Water & Sanitation

803.694.2356 townofwhitmire@bellsouth.net

37. DANGER SIGNALS AND SAFETY DEVICES: The Contractor shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition, sufficient red or warning lights at night, suitable barricades and other devices necessary to protect the public. In case the Contractor fails or neglects to take such precautions, the Owner may have such lights and barricades installed and charged the cost of this work to the Contractor. Such action by the Owner does not relieve the Contractor of any liability incurred under this Specifications or contract.

38. PAVEMENT GUARANTEE: The Contractor warrants to the Owner that all materials and workmanship furnished on state roadways are guaranteed in accordance with the terms of the General Conditions, Section 4, General Guaranty, for a period of two years. The Contractor will remedy any settlements or deficiencies of the pavement surface within this period.

39. CLEAN-UP FOLLOWING PAVEMENT INSTALLATION; PUBLIC AND PRIVATE RIGHT-OF-WAYS:

39.1 All work within state, county and town highway right-of-ways is to be conducted in accordance with the contract drawings and specifications, the general and special provisions of the encroachment permit, and the traffic control requirements of the Supplemental Conditions. The work is subject to inspections by highway representatives and their directions regarding activities in right-of-ways.

39.2 Clean-up is a major issue with regards to work in public right-of-ways. Initial clean-up shall be performed daily as it affects roadway safety and drainage. Soils are to be removed from roadways, sidewalks, and drainage ditches and culverts restored. Impediments to drainage and safety such as excess dirt piles, stored materials, lax or incomplete traffic control will not be tolerated.

39.3 To the maximum extent possible, private roadways, drives, offsite drainage ditches and structures shall be restored immediately after the installation of sidewalk and roadway pavements. The restoration or replacement of public or private property shall be scheduled as a top priority work item in the execution of this project.

39.4 Final clean-up, including grassing, shall also be expedited to the maximum extent possible. The Owner reserves the option to direct this work to be performed expeditiously for the protection of the environment and the welfare of the public.

40. PRE-CONSTRUCTION CONFERENCE: Prior to construction, a pre-construction conference will be held with representatives of the Owner, Contractor, the Engineer, and other parties that are stakeholders in the project.

41. SPECIFICATIONS AND DRAWINGS: The following Drawings and Specifications form a part of this Contract as set forth in Paragraph 1.1, Section 01230, GENERAL CONDITIONS. The Drawings bear the general designation:

42. A. THE DRAWINGS ARE LISTED AS FOLLOWS

Subertown Road/Gary Street Sidewalk Project

CDBG Project # 4-CE-22-009

<u>Sheet No.</u>	<u>Title</u>
1	Cover
2	General Notes
3-4	Existing Conditions
5-6	Demolition Plan
7	Typical Sections
8-9	Layout Plan
10-11	Erosion Control Plan
12-13	Grading and Drainage Plan
14	Sidewalk Profiles
15	Drainage Profiles
16-20	Details
S1	Structural Details

B. THE SPECIFICATIONS ARE LISTED AS FOLLOWS:

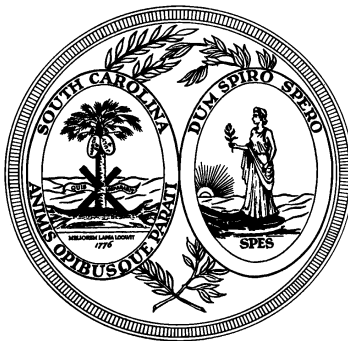
<u>Section No.</u>	<u>Title</u>
02050	Demolition and Removal
02110	Clearing and Grubbing
02140	Dewatering

02200	Earthwork
02210	Unclassified Excavation & Grading
02220	Excavation & Backfill
02231	Subgrade
02235	Macadam Base Course
02270	Erosion Control
02271	Engineering Fabrics
02277	Temporary Silt Fence
02441	Underground Irrigation System
02511	Bituminous Pavements
02523	Concrete Sidewalk and Driveway
02527	Concrete Curb and Gutter
02575	Pavement Repair & Resurfacing
02616	Pavement Removal & Replacement
02721	Drainage Structures & Inlets
02722	Drainage Pipe & Culverts
02820	Grassing
02933	Seeding and Mulching
02995	Clean Up
03100	Concrete Form Work
03200	Concrete Reinforcement
03300	Cast-in-Place Concrete
05720	Decorative Metal Railings
-----	Report of Subsurface Exploration and Engineering Evaluation
-----	SCDOT Encroachment Permit

(End of Section 01232)

INTENTIONALLY BLANK

**DEPARTMENT OF COMMERCE
GRANTS ADMINISTRATION
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM**



CONTRACT SPECIAL PROVISIONS

The following CDBG Contract Special Provisions should be used with all construction contracts, including housing rehabilitation, as applicable, and professional service contracts, where CDBG funds are being used in whole or in part.

CONTRACT SPECIAL PROVISIONS

1. **Definitions:** For purposes of this Contract, the following terms shall have the meanings set forth below:
 - (a) “Assistance” means the CDBG grant funds provided, or to be provided, to the Grantee by the State, pursuant to the Grant Award Agreement.
 - (b) “CDBG” means Community Development Block Grant.
 - (c) “Contract” means the contractual agreement between the Owner and the Contractor to which these Contract Special Provisions have been incorporated and made a part thereof.
 - (d) “Contractor” means the contractor whose services are retained pursuant to the Contract.
 - (e) “Grantee” means the unit of local government designated as the recipient of the Assistance in the Grant Award and signing the acceptance provision of the Grant Award.
 - (f) “HUD” means U.S. Department of Housing and Urban Development, which is the federal agency that awards and has authority over CDBG funding to the State.
 - (g) “Owner” means the Grantee or Subrecipient, as applicable.
 - (h) “Project” means the project for which the services of the Contractor have been retained pursuant to the Contract which are funded, in whole or in part, with CDBG funds.
 - (i) “State” means the State of South Carolina, or that agency, agency division, or Office of State government which has been delegated the responsibility for administering the CDBG program for the State of South Carolina, as appropriate.
 - (j) “Subrecipient” means the agent of the unit of local government as designated by an agreement.
 - (k) “Labor Surplus Area” means a civil jurisdiction that has an unemployment rate at least 20% above the average unemployment rate for all states, the District of Columbia, and Puerto Rico during the previous two calendar years. The Department of Labor issues the labor surplus area list on a fiscal year basis.

2. **Prime Contractor Responsibilities:** The Contractor is required to assume sole responsibility for the complete effort and enforcement of laws and regulations under this Contract. The Owner will consider the Contractor to be the sole point of contact with regard to contractual matters. All contractors must be registered in SAM and eligible to receive federal contracts.
3. **Federal and State Laws:** The Contractor agrees to comply with all CDBG requirements as well as other federal and state laws, regulations, or Executive Orders. The State reserves the right to add or delete terms and conditions of this Contract as may be required by revisions and additions or changes in the requirements, regulations, and laws governing the CDBG Program.
4. **Procurement and Contracting:** In accordance with 2 CFR Part 200, the cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used. This provision shall supersede any conflicting provision in an executed contract document or agreement funded in whole or in part with CDBG funds.
 - (a) The Grantee shall ensure compliance with the requirements of the Build America, Buy America Act, as amended 41 U.S.C 8301 et. Seq. and all applicable HUD regulations. This domestic content procurement preference requires that all iron, steel, manufactured products, and construction materials used in covered infrastructure projects are produced in the United States.
5. **Ownership:** Ownership of all real or personal property, acquired in whole or in part with CDBG funds for use on this Project, shall be vested in the Grantee, unless otherwise authorized by the State. When the Grantee determines that the property is no longer required for the purposes of this Project, the Grantee must notify the State and obtain approval for disposition of the property in accordance with applicable guidelines.
6. **Copyright:** Except as otherwise provided in the terms and conditions of this Contract, the Contractor paid through this Contract is free to copyright any books, publications or other copyrightable materials developed in the course of the Project and under this Contract. However, HUD and the State reserve a royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use and to authorize others to use, for Federal government and State purposes:
 - (a) the copyright in any work developed under this Contract; and
 - (b) any rights of copyright to which a subcontractor purchases ownership with grant support.

The Federal government's rights and the State's rights identified above must be conveyed to the publisher and the language of the publisher's release form must insure the preservation of these rights.
7. **Reporting Requirements:** The Contractor agrees to complete and submit all reports, in such form and according to such schedule, as may be required by the State or HUD. Further, the Contractor agrees to require any subcontractors to submit reports that may be required and to incorporate such language in its agreements. Failure to meet deadlines with the required information could result in sanctions.

8. **Access to Records:** All records with respect to all matters covered by this Contract shall be made available at any time for audit and inspection by HUD, the State or the Grantee or their representatives upon their request.
9. **Maintenance of Records:** Records for non-expendable property purchased totally or partially with Federal funds must be retained for five years after final close-out of the grant. All other pertinent contract records including financial records, supporting documents and statistical records shall be retained for a minimum of five years after the final close-out report. However, if any litigation, claim, or audit is started before the expiration of the five-year period, then records must be retained for five years after the litigation, claim or audit is resolved.
10. **Confidential Information:** Any reports, information, data, etc., given to, prepared by, or assembled by the Contractor under this Contract, which the Grantee or the State requests to be kept confidential, shall not be made available to any individual or organization by the Contractor without prior written approval of the Grantee or the State, as applicable.
11. **Reporting of Fraudulent Activity:** If at any time during the term of this Contract anyone has reason to believe by whatever means that, under this or any other program administered by the State, a recipient of funds has improperly or fraudulently applied for or received benefits, monies or services pursuant to this Contract or any other contract, such information shall be reported immediately to the appropriate authorities.
12. **Political Activity:** None of the funds, materials, property or services provided directly or indirectly under this Contract shall be used for any partisan political activity, or to further the election or defeat of any candidate for public office or otherwise in violation of the provisions of Section 8-13-765 of the Code of Laws of South Carolina, 1976, as amended.
13. **Whistleblower Rights:** Grantees and subgrantees are required to inform their employees in writing of the employee's whistleblower rights and protections as prescribed under law. 2 CFR 200.217.
14. **Conflicts of Interest and Ethical Standards, South Carolina Consolidated Procurement Code:** The following provisions regarding "conflicts of interest" apply to the use and expenditure of CDBG funds by the Grantee and its subrecipients, including the Contractor.

In the procurement of supplies, equipment, construction and services, the more restrictive conflict of interest provisions of the State of South Carolina Ethics, Government Accountability and Campaign Reform Act of 1991 or of the Contractor shall apply.

In cases not governed by the above, such as the acquisition and disposition of real property and the provision of CDBG assistance to individuals, businesses and other private entities, the following provisions shall apply: except for eligible administrative or personnel costs, generally no employee, officer, agent, or board member with a real or apparent conflict of interest may participate in the selection, award, or administration of a contract supported by the Federal award of CDBG funds. This conflict of interest provision applies to employees who exercise, or have exercised, any function or responsibilities with respect to CDBG activities assisted herein, or are in a position to participate in a decision making process or gain inside information, who may obtain a financial interest or benefit from the activity, or have an interest in any contract, subcontract or agreement with respect thereto, or the proceeds thereunder either for themselves

or those with whom they have family or business ties during their tenure or for one year thereafter. See 2 CFR 200.318(c).

Should any governmental entity, contractor, subcontractor, employee, board member or official know or perceive any breach of ethical standards or conflict of interest under the CDBG grant awarded to the Grantee or any other CDBG grant, they shall immediately notify in writing the Department of Commerce, Grants Administration, 1201 Main Street, Suite 1600, Columbia, South Carolina, 29201. If the State finds any circumstances that may give rise to a breach of ethical standards or conflict of interest, under any grant, they shall notify the participating governmental entity and the State Ethics Commission as applicable. The State may undertake any administrative remedies it deems appropriate, where there is a breach of ethical standards or conflict of interest under the regulations governing the CDBG Program and the State policies.

15. **Applicable Law:** In addition to the applicable Federal laws and regulations, this Contract is also made under and shall be construed in accordance with the laws of the State. By execution of this Contract, the Contractor agrees to submit to the jurisdiction of the State for all matters arising or to arise hereunder, including but not limited to performance of said Contract and payment of all licenses and taxes of whatever kind or nature applicable hereto.
16. **Limitation of Liability:** The Contractor will not assert in any legal action by claim or defense or take the position in any administrative or legal procedures that he is an agent or employee of the Owner. This provision is not applicable to contracts for CDBG administration services where the Contractor is a Council of Government. The State shall not be liable for failure on the part of the Grantee or any other party to perform all work in accordance with all applicable laws and regulations. The Grantee agrees to defend, indemnify, and hold harmless the State from and against all claims, demands, judgments, damages, actions, causes of actions, injuries, administrative orders, consent agreement and orders, liabilities, penalties, costs, and expenses of any kind whatsoever, including, without limitation, claims arising out of loss of life, injury to persons, property, or business or damage to natural resources in connection with the activities of the Grantee and any other third parties in a contractual relationship with the Grantee, or a subsidiary, whether or not occasioned wholly or in part by any condition, accident, or event caused by any act or omission of the State as a result of the Assistance.
17. **Legal Services:** No attorney-at-law shall be engaged through the use of any funds provided under this Contract in any legal action or proceeding against the State, the Grantee, any local public body or any political subdivision.
18. **Contract:** If any provision in this Contract shall be held to be invalid or unenforceable, the remaining portions shall remain in effect. In the event such invalid or unenforceable provision is considered an essential element of this Contract, the parties shall promptly negotiate a replacement provision, which addresses the intent of such provision.
19. **Amendments:** Any changes to this Contract affecting the scope of work of the Project must be approved, in writing, by the Owner and the Contractor and shall be incorporated in writing into this Contract. Any amendments of the original contract must have written approval by the State prior to execution.
20. **Termination for Convenience:** This Contract may be terminated for convenience in accordance with 2 CFR Part 200.

- 21. Sanctions:** If the Contractor fails or refuses to comply with the provisions set forth herein, the State or Owner may take any or all of the following actions: cancel, terminate or suspend in whole or in any part the contract, or refrain from extending any further funds to the Contractor until such time as the Contractor is in full compliance.
- 22. Subcontracting:** If any part of the work covered by this Contract is to be subcontracted, the Contractor shall identify the subcontracting organization and the contractual arrangements made therewith to the Owner and to the State. All subcontracts must be approved by the Owner and the State to insure they are not debarred or suspended by the Federal or State governments and to insure the Owner and the State understand the arrangements.
- 23. Subcontracting with Small and Minority Firms, Women's Business Enterprise and Labor Surplus Areas:** It is national policy to award a fair share of contracts to disadvantaged business enterprises (DBEs), small business enterprises (SBEs), minority business enterprises (MBEs) and women's business enterprises (WBEs). Accordingly, affirmative steps must be taken to assure that DBEs, SBEs, MBEs and WBEs are utilized when possible as sources of supplies, equipment, construction and services. Affirmative steps shall include the following:
- (a) Including qualified DBEs, SBEs, MBEs and WBEs on solicitation lists;
 - (b) Assuring that DBEs, SBEs, MBEs and WBEs are solicited whenever they are potential sources;
 - (c) Whenever economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by DBEs, SBEs, MBEs and WBEs;
 - (d) Where the requirement permits, establishing delivery schedules which will encourage participation by DBEs, SBEs, MBEs and WBEs;
 - (e) Using the services and assistance of the Small Business Administration, Minority Business Development Agency, the State Office of Small and Minority Business Assistance, the U.S. Department of Commerce and the Community Services Administration as required; and
 - (f) Requiring the subcontractor, if any, to take the affirmative actions outlined in (1) – (5) above.
- 24. Debarment Certification:** The Contractor must comply with Executive Orders 12549 and 12689 regarding Federal debarment and suspension regulations prior to entering into a financial agreement for any transaction as outlined below.
- (a) Any procurement contract for goods and services, regardless of type, expected to equal or exceed the Federal procurement small purchase threshold (which is \$100,000 and is cumulative amount from all federal funding sources).
 - (b) Any procurement contract for goods and services, regardless of amount, under which the Contractor will have a critical influence on or substantive control over the transaction.
- In addition, no contract may be awarded to any contractors who are ineligible to receive contracts under any applicable regulations of the State.
- 25. South Carolina Illegal Immigration Reform Act:** The Owner and the Contractor are required to comply with the South Carolina Illegal Immigration Reform Act (signed June 4, 2008) requiring verification of lawful presence in the United States of any alien eighteen

years of age or older who has applied for state or local public benefits, as defined in 8 U.S.C. Section 1621, or for federal public benefits, as defined in U.S.C. Section 1611.

- 26. Equal Employment Opportunity:** The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the State.

In carrying out the Project, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor must take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the State setting forth the provisions of this non-discrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin. The Contractor will, in all solicitations or advertisements for employees by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin. The Contractor shall incorporate the foregoing requirements of this paragraph in all of its subcontracts for the Project unless exempted by rules, regulations, or orders of the State issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor.

The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State advising the said labor union or workers' representatives of the Contractor's commitment under this Section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the State, or pursuant thereto, and will permit access to its books, records, and accounts by HUD and the State for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

In the event of the Contractor's noncompliance with the non-discrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further State government contracts or federally assisted construction contract procedures authorized in Executive Order 11246 of September 24, 1965, or by rules, regulations, or orders of the State, or as otherwise provided by law.

- 27. Age Discrimination:** In accordance with 45 CFR, Parts 90 and 91, the Contractor agrees there shall be no bias or age discrimination as to benefits and participation under this Contract.

- 28. Section 109 of the Housing and Community Development Act of 1974:** No person in the United States shall on the grounds of race, color, national origin or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any

program or activity funded in whole or in part with funds made available under the CDBG program of the State.

- 29. Section 504 of the Rehabilitation Act of 1973, as amended:** The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his disability, be denied the benefits, or be subjected to discrimination including discrimination in employment, any program or activity that receives the benefits from the Assistance.

- 30. Section 3, Compliance and Provision of Training, Employment and Business Opportunities:** The work to be performed under this Contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, (12 USC § 1701u). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3 shall, to the greatest extent feasible be directed to low and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

The parties to this said Contract agree to comply with HUD's regulations in 24 CFR Part 75, which implement Section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the 24 CFR Part 75 regulations.

The contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions; the qualifications for each; and the name and location of person(s) taking applications for each of the positions; and the anticipated date the work shall begin. The Contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 75. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 75.

The Contractor will certify that any vacant employment positions including training positions, that are filled (1) after the Contractor is selected but before this Contract has been executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 75 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR Part 75.

The Contractor agrees to submit such reports as required to document compliance with 24 CFR Part 75. Noncompliance with the regulations in 24 CFR Part 75 may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.

- 31. Lead-Based Paint:** The construction or rehabilitation of residential structures with any portion of the Assistance is subject to the HUD Lead-Based Paint regulations found at 24 CFR Part 35. Any grants or loans made by the Grantee for the rehabilitation of residential

structures with any portion of the Assistance shall be made subject to the provisions for the elimination of lead-base paint hazards under subpart B of said regulations, and the Grantee shall be responsible for the inspections and certifications required under Section 35.14(f) thereof.

32. Compliance with Air and Water Acts: (Applicable to construction contracts and related subcontracts exceeding \$100,000) This Contract is subject to the requirements of the Clean Air Act, as amended, 42 USC § 7401 et seq., the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC § 1251 et seq., and the regulations of the Environmental Protection Agency with respect to 40 CFR Part 15, as amended from time to time, and the South Carolina Stormwater Management and Sediment Reduction Act. In particular, the following are required:

- (a) A stipulation by the Contractor or subcontractor that any facility to be utilized in the performance of any nonexempt contract or subcontract is not listed on the List of Violating Facilities, issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR § 15.20.
- (b) Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 USC § 7414) and Section 308 of the Federal Water Pollution Control Act, as amended (33 USC § 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Sections 114 and 308, and all regulations and guidelines issued thereunder.
- (c) A stipulation that as a condition of award of contract prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized or to be utilized for the contract under consideration is to be listed on the EPA list of Violating Facilities.
- (d) Agreement by the Contractor that the Contractor will include or cause to be included the criteria and requirements in these subparagraphs (1) through (4), in every nonexempt subcontract and requiring that the Contractor will take such action as the State may direct as a means of enforcing such provisions.

In no event shall any amount of the Assistance be utilized with respect to a facility which has given rise to a conviction under section 113(c)(1) of the Clean Air Act or Section 309(c) of the Federal Water Pollution Control Act.

33. Federal Labor Standards Provisions: *(Applicable to construction contracts in excess of \$2,000 or residential rehabilitation contracts involving more than eight units)*

The Project or program to which the construction work covered by this Contract pertains is being assisted by the United States of America and the Federal Labor Standards Provisions as set forth on Attachment 1 are included in this Contract pursuant to the provisions applicable to such Federal assistance. These provisions must be complied with or sanctions will be instituted.

Attachment 1

U.S. Department of Housing and Urban Development, Office of Labor Relations form HUD-4010 (06/2009) ref. Handbook 1344.1

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached thereto and made a part thereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5 (a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification of the time actually work therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification an wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1)** The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2)** The classification is utilized in the area by the construction industry; and
- (3)** The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so

advise HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1214-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federal-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension or any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for an on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three

years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1 (b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment of provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices and trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) the contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget Under OMB Control Number 1215-0129.)

(b) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays for or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR 5.5 (a)(3)(i) and that such information is correct and complete;

(2) That each laborer or mechanic (including each apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment Training Administration, Office of Apprenticeship Training, Employer and Training Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to his entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as state above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ration permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every Trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 of this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause

include disputes between the contractor (or any if its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provided in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable only where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime Requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violations of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the

Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract, or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable only where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to this health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, 40 USC 3701 et. seq.

(3) The Contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

SECTION 01250**MEASUREMENT AND PAYMENT**

GENERAL: The following paragraph establishes the basis for Measurement and payment for the Work to be performed under the respective Bid items listed in the BID, Section 01140.

The Bid Price shall constitute full compensation for doing each item of work including all activities and incidentals required for the installation and completion of each item and accordance with the Contract Drawings, Specifications and requirements.

The Bid Price for each item shall be full compensation for the following activities: Furnishing and installing all materials and equipment, including excavation, disposal of surplus excavated or material, backfill, compaction, all necessary sheeting and bracing, dewatering, handling water flows, removing and replacing base and pavement outside the limits of demolition, property corners, signs, fences, shrubs, lawns, water lines, gas lines, storm drain lines and storm drainage structures, maintenance of drives and streets and protection of power and communication lines. The price shall also constitute full compensation for all barricades, lighting and flagmen as required for the protection of the public and public property.

Each price stated in the BID shall constitute full compensation for each completed item of work.

ITEM No. 1 MOBILIZATION

The Lump Sum Bid for mobilization shall include:

- 1) The establishment of all temporary offices, buildings, fencing, staging areas, haul routes, and other facilities necessary for the work on the project;
- 2) Surveying and construction staking;
- 3) Installation and project duration maintenance of erosion control facilities such as silt fencing, sediment tubes, construction entrances, and concrete washout areas. All SWPPP reports from a third party consultant. All work shall be done in accordance with the details;
- 4) Performance bond, labor and materials bond;
- 5) General Liability Insurance;
- 6) As-Built plans of the newly installed work in an AutoCAD digital format in same coordinate system as the original construction documents and acceptable to the engineer; and
- 7) All other work and operations which must be performed, or costs incurred prior to beginning work on the various items on the project site.

The mobilization cost will be paid with the first pay request and shall be limited to 9% of the total contract amount.

Payment, at the amount stated, will be full compensation for the work satisfactorily completed.

ITEM No. 2 TRAFFIC CONTROL

The Lump Sum Bid for traffic control shall include, but not be limited to, all costs for furnishing labor, material, and equipment for maintaining a safe work environment through proper traffic control measures (i.e. flaggers, traffic cones/barrels, barricades, construction signage, variable message boards, notice to business owners, etc.) and to maintain access to businesses and residences along Subertown Road and Gary Street. Traffic Control must follow all SCDOT standards and protocols. Traffic Control Plan to be submitted to SCDOT, Newberry County, and Town of Whitmire for review and approval prior to commencing any work onsite.

The traffic control cost shall be pro-rated equally, by month, over the length of the project.

Payment, at the pro-rated amount, will be full compensation for the work satisfactorily completed.

ITEM No. 3 DEMOLITION

The Unit Price Bid for demolition shall include, but not be limited to), all costs for furnishing labor and equipment for the complete removal, salvage, and disposal of existing material necessary for the installation of asphalt pavement, curb and gutter, drainage, storm drainage work, removal and replacement of roadway signage as necessary, removal and replacement of mailboxes, and concrete paving. Demolition work shall be performed in accordance with Specification Section 02050, DEMOLITION AND REMOVAL. This item does not cover (minor demolition) preparing areas that are currently grassed or planted that will eventually have pavement. Preparing these areas should be included in the Unit Price for the finished surfaces.

Measurement will be on a square yard basis of the demolition work accomplished.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM No. 4a – e DRAINAGE PIPE

The Unit Price Bid for installing 15" RCP, 18" RCP, 24" RCP, Pipe Connection to Existing Structure, and Concrete Flared Ends indicated on the drawings shall include the costs for furnishing and installing the drain pipe lines as well as the costs of trench excavation, disposal of excess excavated material off-site, sheeting and bracing, dewatering, removal and disposal of existing storm drainage pipes indicated in the drawing, locating, avoiding, and working around existing utilities. The Contractor shall also include the cost for coordination of relocating utilities to meet SCDOT standards for all work in the Right-of-Way with utility owners and other associated administrative expenses. Hauling of fill materials, filling of ditches as shown in the details, backfilling, compaction, grading, drain line tie-in to existing structures, and all other work associated with the requirements for the pipe installation shall also be included.

Measurement for drain pipe lines shall be in linear feet along the center line of the pipe as measured horizontally from the inside face of the outlet drainage structure to the inside face of the inlet drainage structure. This will reflect the actual length of pipe installed. Drain pipe lines without drainage structure inlet or outlet shall be measured to the end of the pipe. Pipe connections to existing structures and Concrete Flared Ends will be measured on an each, completed and installed.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEMS No. 5a – c DROP INLETS, CATCH BASINS, & JUNCTION BOXES

The Unit Price Bid for drainage structures shall include furnishing the materials, labor and equipment, as well as the cost, including but not necessarily limited to, for excavation, removal of existing curb inlet, if necessary, shoring, dewatering, backfilling, compaction, and disposal of any excess material, in the installation of drainage structures at the locations specified on the drawings and in accordance with Specification Section 02721, Drainage Structures and Inlets, and SCDOT standards. Frames and covers are to be included in the Unit Bid price.

The method of measurement will be the number of drainage structures converted and installed.

Payment, at the Unit Price Bid, will be full compensation for each item of work satisfactorily completed.

ITEMS No. 5d-e ADJUST EXISTING CATCH BASIN LID AND CONVERT EXISTING CATCH BASINS TO JUNCTION BOX

The Unit Price Bid for modifying and converting drainage structures shall include furnishing the materials, labor and equipment, as well as the cost, including but not necessarily limited to, for excavation, removal of existing curb and gutter, drop inlet, catch basin, and/or junction box and replace with a junction box, if necessary, shoring, dewatering, backfilling, compaction, and disposal of any excess material, in the installation of drainage structures at the locations specified on the drawings and in accordance with Specification Section 02721, Drainage Structures and Inlets, and SCDOT standards. Frames and covers are to be included in the Unit Bid price.

The method of measurement will be the number of drainage structures installed.

Payment, at the Unit Price Bid, will be full compensation for each item of work satisfactorily completed.

ITEMS No. 6a – c CONCRETE CURB AND GUTTER

The Unit Price Bid for concrete curb and gutter, transition curb (taper curb), and sidewalk retaining curb shall include (but not be limited to), all costs for furnishing all material, labor, and equipment required to construct curb and gutter, transition curb (taper curb), and sidewalk retaining curb at the locations indicated on the plans and as specified herein.

Measurement will be in linear feet of new concrete curb and gutter, transition curb (taper curb), and sidewalk retaining curb in place, and accepted. Length of curb and gutter will be measured and will exclude lengths at catch basins.

Payment will be made at the Unit Price Bid for concrete curb and gutter measured as specified above and constitute full compensation for the work satisfactorily completed.

ITEM No. 7a CONCRETE SIDEWALK (4" UNIFORM)

The Unit Price Bid for concrete sidewalk: 4" thick shall include all costs for furnishing all materials, labor, and equipment to install concrete slab at the locations on the drawings and in accordance with CAST-IN-PLACE CONCRETE. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, grading, forming, brush and window detail, reinforcing, compaction, and disposal of any excess materials.

Measurement will be on a square yard basis of the completed concrete sidewalk surface.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM No. 7b CONCRETE SIDEWALK (6" UNIFORM)

The Unit Price Bid for concrete sidewalk: 6" thick shall include all costs for furnishing all materials, labor, and equipment to install concrete slab at the locations on the drawings and in accordance with CAST-IN-PLACE CONCRETE. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, grading, forming, brush and window detail, reinforcing, compaction, and disposal of any excess materials.

Measurement will be on a square yard basis of the completed concrete sidewalk surface.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM No. 7c CONCRETE DRIVEWAY (6" UNIFORM)

The Unit Price Bid for concrete driveway: 6" thick shall include all costs for furnishing all materials, labor, and equipment to install concrete slab at the locations on the drawings and in

accordance with CAST-IN-PLACE CONCRETE. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, grading, forming, brush and window detail, reinforcing, compaction, and disposal of any excess materials.

Measurement will be on a square yard basis of the completed concrete driveway surface.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM No. 7d PEDESTRIAN CURB RAMP

The Unit Price Bid for pedestrian curb ramp shall include (but not be limited to), all costs for furnishing all material, labor, and equipment required to construct concrete pedestrian curb ramps, at the locations indicated on the plans and in accordance with CAST-IN-PLACE CONCRETE and SCDOT standard drawings and specifications. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, grading, forming, brush and window detail, reinforcing, compaction, new curb and gutter (as shown on plans), permanent grassing, and disposal of any excess materials.

Measurement will be on a square yard basis of pedestrian curb ramp installed and accepted.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM No. 7e DETECTABLE WARNING SURFACE

The Unit Price Bid for detectable warning surface shall include (but not be limited to), all costs for furnishing all material, labor, and equipment required to construct detectable warning surface at the locations indicated on the plans and in accordance with the details and specifications and as specified herein.

Measurement will be in square feet of new detectable warning surface in place and accepted.

Payment will be made at the Unit Price Bid for detectable warning surface, measured as specified above and constitute full compensation for the work satisfactorily completed.

ITEM No. 8 FULL DEPTH ASPHALT PATCH

The Unit Price Bid per Square Yard for this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to perform full depth asphalt patching as per SCDOT specifications.

Measurement will be per square yard of completed full depth asphalt patch.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

ITEM No. 9a-b POUR IN PLACE CONCRETE WALL

The Unit Price Bid for Pour in Place Concrete Wall 8" Wide and 10" Wide shall include (but not be limited to), all cost for furnishing all material, labor and equipment, excavation, concrete foundation, forms, reinforcement, drainage, and miscellaneous masonry supplies required for the installation of the pour in place concrete walls, in accordance with the drawings and specifications including detailing as shown in the drawings.

Measurement will be on a linear foot basis of the completed pour in place concrete wall.

Payment will be made at the Unit Price Bid, measured as specified above and will constitute full compensation for the work satisfactorily completed and accepted.

ITEM No. 10 36" TALL METAL RAILING

The Unit Price Bid for 36" Tall Metal Railing shall include (but not be limited to), all cost for furnishing all material, labor and equipment, coordination with railing company and design team, and masonry anchors required for the installation of metal railings, in accordance with the drawings and specifications including detailing as shown in the drawings.

Measurement will be on a linear foot basis of the completed metal railing.

Payment will be made at the Unit Price Bid, measured as specified above and will constitute full compensation for the work satisfactorily completed and accepted.

ITEMS No. 11 PERMANENT PAVEMENT MARKING

The Unit Price Bid for permanent pavement marking shall include (but not be limited to), all costs for furnishing all material, labor, and equipment required to install thermoplastic permanent pavement markings at the locations indicated on the plans and in accordance with the details and specifications, the South Carolina Department of Transportation (SCDOT) Standards, and as specified herein. Fast dry temporary pavement marking should also be included under this pay item in accordance with SCDOT Standard Specifications for Highway Construction.

The following quantities have been provided for information purposes only. Contractor must verify quantities to his/her own satisfaction.

DESCRIPTION	QTY	UNIT
8" Solid White Line - Thermo	268	LF
24" Solid White Line - Thermo	36	LF
Fast Dry Pavement Marking	1	LS

Measurement will be on a lump sum basis of the completed permanent pavement marking installed and accepted.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEMS No. 12 CLASS A RIP RAP

The Unit Price Bid for Class A Rip Rap shall include (but not be limited to), all cost for furnishing all material, labor and equipment, and engineering fabric required for the installation of Class A Rip Rap, in accordance with the drawings and specifications including detailing as shown in the drawings. The price shall also include the installation of the engineering fabric.

Measurement will be on a per ton basis of the completed Class A Rip Rap installation.

Payment will be made at the Unit Price Bid, measured as specified above and will constitute full compensation for the work satisfactorily completed and accepted.

(End Section 01250)

INTENTIONALLY BLANK

PART ONE - GENERAL:**1.01 - SCOPE**

This work includes the demolition and removal of all items necessary for the completion of the work as shown on the contract documents, including but not limited to, asphalt base and surfacing, concrete paving, and designated vegetation.

1.02 - QUALITY ASSURANCE**A. Referenced Standards**

Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Any requirements of these specifications shall in no way invalidate the minimum requirements of the referenced standards. South Carolina Highway Department Standard Specifications for Highway Construction, most current edition.

PART TWO - PRODUCTS: (This section not applicable).**PART THREE - EXECUTION:****3.01 - REQUIREMENTS**

The work includes demolition or removal of all existing materials indicated, specified or required. All materials resulting from demolition work, except as indicated or specified otherwise, shall become the property of the CONTRACTOR and shall be removed from the limits of the OWNER'S property. Remove all rubbish and debris from the site daily, unless otherwise directed.

A. Dust Control

Take appropriate action to check the spread of dust to avoid the creation of a nuisance in the surrounding area. Comply with all dust regulations imposed by local air pollution agencies.

B. Personnel

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights to meet the SCDOT standard for traffic control.

3.02 - EXISTING FACILITIES TO BE REMOVED

A. Asphalt

Remove asphalt concrete, concrete and base materials completely where indicated within the limits as specified for the new work. Exercise extreme care in the demolition procedures to avoid damage to private and public property. The existing roadway materials are indicated on the drawings. This information is not presented as a guarantee of the material to be encountered. CONTRACTORS are to make their own determinations as to the work involved.

B. Miscellaneous Removals

Remove completely all lawn and gravel within the limits specified for the new work. Exercise extreme care in the removal procedures to avoid damage to private and public property.

C. Concrete

Where concrete work to be removed abuts concrete to remain, saw concrete along straight lines to a depth of not less than two inches (2"). The remainder of the concrete shall be broken out, provided that the broken area is concealed in the finished work, and the remaining is sound. At locations where the broken face cannot be concealed, it shall be ground smooth or the saw cut shall be made entirely through the concrete.

D. Salvaged Materials

Items to be salvaged and delivered to the County or Town include any and all signage in the construction limits.

3.03 - CLEAN UP

Remove and transport all debris and rubbish in a manner that will prevent spillage on streets or adjacent areas. Clean up spillage from streets and adjacent areas.

3.04 - REGULATIONS

Comply with all Federal, State and local hauling and disposal regulations.

(End of Section 02050)

PART 1 DESCRIPTION

1.1 The clearing work covered by this section consists of cutting, removing and properly disposing of vegetation and debris. Trees specifically identified on the plans to be preserved shall be adequately delineated and flagged by the CONTRACTOR, such that the balance of the work may be performed in a safe and harmless manner in the vicinity of preserved trees. Such tree preservation will be considered part of the work and shall be in conformance with applicable local codes and regulations. Clearing and grubbing shall be performed in areas as called for on the plans, the limits of which shall coincide with the construction limits and in general shall extend five (5) feet beyond top of cut and toe of fill, not to exceed the limits of the Owner's property.

1.2 RELATED WORK

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.2.1 Clearing and grubbing activities shall conform to the "Standard Specifications for Highway Construction" latest edition, published by the South Carolina Department of Transportation, except that grubbing shall be performed on all cleared excavation and embankment areas and shall include the complete removal of all stumps, roots and embedded debris.

1.3 The grubbing work covered by this section consists of removing and properly disposing of all surface vegetation and debris. Where the material being removed is high in organic matter content, such as root mat and other vegetative matter, it shall be considered vegetation and removed as part of the work of grubbing.

1.4 The work of clearing and grubbing shall also include the removal and satisfactory disposal of crops, weeds and other annual growth, fences, steps, walls, chimneys, column footings, other footings, foundation slabs, basements, other foundation components, signs, junked vehicles, and other rubble and debris, and the filling of holes and depressions. This work shall also be performed in all non-wooded areas within the construction limits, shown on the project plans upon which seeding and mulching, sprigging or sodding is to be performed.

As a part of the work of clearing and grubbing, the CONTRACTOR will be required to cut off and plug at the right of way or construction limits, as directed by the ENGINEER, any private water or sewer line intercepted during the construction of the project, as well as cut off and remove from the construction area any septic tank or portion thereof during the construction of the project.

1.5 Clearing and grubbing operations shall be completed sufficiently in advance of grading operations as may be necessary to prevent any of the debris from the clearing and grubbing operations from interfering with the excavation or embankment operations.

1.6 The CONTRACTOR shall obtain, at his own expense, all necessary permits pertaining to clearing and grubbing work not already secured by the ENGINEER. The CONTRACTOR shall then provide a copy of any and all required permits to the ENGINEER.

PART 2 MATERIAL

Topsoil shall be considered to mean original surface soil, typical of the area, which is capable of supporting native plant growth, and shall be free of large stones, roots, brush, waste construction debris and other undesirable material.

PART 3 INSTALLATION

3.1 Clearing and grubbing shall be performed in areas as called for on the plans, the limits of which shall coincide with the construction limits and in general shall extend 5 feet beyond top of cut or toe of fill, not to exceed the limits of the OWNER's property. Clearing and grubbing activities shall conform to the "Standard Specifications for Highway Construction" latest edition, published by the South Carolina Department of Transportation, except that grubbing shall be performed on all cleared excavation and embankment areas and shall include the complete removal of all stumps, roots and embedded debris.

3.2 The CONTRACTOR shall perform all clearing and grubbing operations before construction operations begin.

3.2.1 Where adjacent areas within the site but outside the limits of construction are disturbed as a result of clearing and grubbing activities, the CONTRACTOR shall remove all debris and restore to the original grades and equal or better condition.

3.2.2 The CONTRACTOR shall exercise caution to protect and maintain all existing utilities and underground works which are to remain. Any existing utilities or underground works which are to remain that are disturbed during construction shall be repaired or replaced at the CONTRACTOR's expense.

3.2.3 The CONTRACTOR must comply with all local, state and federal laws, ordinances and regulations in the removal and disposal of clearing and grubbing of all vegetation, timber, waste and all surface debris that must be hauled from the Project Site. No burning of materials will be allowed on site. The CONTRACTOR shall properly dispose of all cleared materials at his expense, in conformance with all applicable local and state laws and ordinances with the exception of any materials to be reused or recycled as directed elsewhere in this contract.

3.3 STRIPPING AND STORAGE OF TOPSOIL

All topsoil suitable for reuse, in the opinion of the ENGINEER, shall be stripped to its full depth, all topsoil to be moved shall be free of large stone, roots, brush, waste construction materials and other undesirable matter.

3.3.1 Topsoil stripping shall be accomplished from all topsoiled areas to be disturbed.

3.3.2 Existing lawn sods may be left to decompose with the topsoil. Heavier stands of weeds and grasses shall be removed as directed by the ENGINEER prior to the stripping operations.

3.3.3 The topsoil shall be kept separate from other excavated materials and stored in stockpiles, the location of which shall be as directed by the ENGINEER. Topsoil shall be stockpiled so that it shall not be subject to abnormal erosion and loss, and so that it does not impede the flow of drainage runoff. The directed locations of topsoil stockpiles will, when construction sequence permits, be located in areas that have previously been graded to design rough grade.

3.3.4 Any excess topsoil shall be hauled off the OWNER's property by the CONTRACTOR at CONTRACTOR expense.

(End of Section 02110)

INTENTIONALLY BLANK

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section shall apply to all excavation.
- B. Construct all permanent work in areas free from water. Design, construct and maintain all dikes, levees, cofferdams and diversion and drainage channels as necessary to maintain the areas free from water and to protect the areas to be occupied by permanent work from water damage. Remove temporary works after they have served their purpose.
- C. The CONTRACTOR shall be responsible for the stability of all temporary and permanent slopes, grades, foundations, materials and structures during the course of the Contract. Repair and replace all slopes, grades, foundations, materials and structures damaged by water, both surface and subsurface, to the lines, grades and conditions existing prior to the damage, at no additional cost to the OWNER.

1.2 PAYMENT

- A. The CONTRACTOR'S attention is called to the fact that there is no separate pay item for dewatering.

PART 2 - PRODUCTS

- 2.1 Furnish well points, pumps, tile drains or other approved methods of the type normally used in dewatering operations. Furnish piezometer wells to monitor groundwater levels, if necessary.

PART 3 - EXECUTION**3.1 CARE OF WATER**

- A. Except where the excavated materials are designated as materials for permanent work, material from required excavation may be used for dikes, levees, cofferdams and other temporary backfill.

- B. Furnish, install, maintain and operate necessary pumping and other equipment for dewatering the various parts of the work and for maintaining the foundation and other parts free from water as required for constructing each part of the work.
- C. Install all drainage ditches, sumps and pumps to control excessive seepage on excavated slopes, to drain isolated zones with perched water tables and to drain impervious surfaces at final excavation elevation.
- D. Dewater by means which will ensure dry excavations, preserve final lines and grades, do not disturb or displace adjacent soil. Care shall be taken to assure that dewatering operation has no negative impact on the adjacent road and railroad.
- E. All pumping and drainage shall be done with no damage to property or structures and without interference with the rights of the public, OWNERS of private property.
- F. Do not overload or obstruct existing drainage facilities.
- G. After they have served their purpose, remove all temporary protective work at a satisfactory time and in a satisfactory manner. All diversion channels and other temporary excavations in areas where the compacted fill or other structures will be constructed shall be cleaned out, backfilled and processed under the same Specifications as those governing the compacted fill.
- H. When temporary works will not adversely affect any item of permanent work or the planned usage of the Project, the CONTRACTOR may be permitted to leave such temporary works in place. In such instances, breeching of dikes, levees and cofferdams may be required.

3.2 DEWATERING

- A. By the use of well points, pumps, tile drains or other approved methods, the CONTRACTOR shall prevent the accumulation of water in excavated areas. Should water accumulate, it shall be promptly removed.
- B. Excavations shall be continuously dewatered to maintain a ground water level no higher than three to four feet below the lowest point in the excavation. Dewatering shall be accomplished well enough in advance of excavation to ensure that groundwater is already lowered prior to completing the final excavation to finish subgrade.

- C. All destabilized subgrade conditions caused by inadequate or untimely dewatering operations shall be undercut and backfilled with suitable backfill material at to additional cost to the OWNER.
- D. Piezometer wells are required to monitor the ground water level to ensure proper dewatering prior to excavation below the static water table. The number of wells required will vary depending on the size and depth of structures.
- E. Where the presence of fine grained subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick or unstable condition, the CONTRACTOR shall install and operate a well point system to prevent the upward flow of water during construction. Water pumped or drained from excavations, or any sewers, drains or water coursed encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads, drives, and water courses. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

(End of Section 02140)

INTENTIONALLY BLANK

PART 1 DESCRIPTION

The CONTRACTOR shall furnish all labor, material, equipment, and supplies, and shall perform all earthwork including excavation and backfill, pavement removal, sheathing, bracing, shoring, pumping or bailing, dewatering, restoration and cleanup; all as indicated, specified and/or necessary to complete the work.

- 1.1 Any reference to SCDOT standard specifications was obtained from the "Standard Specifications for Highway Construction" latest edition published by the South Carolina Department of Transportation. Unless otherwise noted, the most current date published applies.

1.2 RELATED WORK: Reference the following specifications for related work:

02270	Erosion and Sediment Control
02933	Seeding and Mulching

PART 2 MATERIALS**2.1 FILL MATERIAL:**

Shall be classified as ML-low plasticity silt or better by the Unified Soil Classification System and tabulated below:

	<u>Unified Class</u>	<u>Description</u>
Class I		1/4" - 1-1/2" well graded stone including coral, slag, cinders, crushed stone and crushed shells
Class II	GM GP SW SP	Coarse gravel well graded Coarse gravel poorly graded Coarse sands well graded Coarse sands poorly graded
Class III	GM GC SM SC	Silty-sandy gravel Clayey-sandy gravel Silty-sands Clayey-sands
Class IV	ML	Inorganic silts and fine sands

Fill material shall exhibit a plasticity index of less than 20, and Standard Proctor maximum density at optimum moisture greater than 90 pounds per cubic foot.

2.1.1 The following materials are unacceptable:

	<u>Unified Class</u>	<u>Description</u>
Class IV	CL	Inorganic clays - low plasticity
	MH	Inorganic elastic silts
	CH	Inorganic clays - high plasticity
Class V	OL	Organic silts
	OH	Organic clays
	PT	Highly organic soil

2.2 WASHED STONE:

Stone material where indicated shall be crushed stone or gravel of strong, durable nature and shall conform to standard size No. 57 per SCDOT Section 804.

2.3 CLASS 2000 CONCRETE: Minimum 28-day compressive strength of 2000 psi.

PART 3 CONSTRUCTION

3.1 EXISTING FACILITIES:

3.1.1 Existing Utilities Shown on the Drawings: It shall be the CONTRACTOR's responsibility to conduct the work in such a manner as to avoid damage to or interference with any utilities services shown on the drawings. If such damage, interference, or interruption of service shall occur as a result of his work, then it shall be the CONTRACTOR's responsibility to promptly notify the ENGINEER of the occurrence and to repair or correct it immediately, at his own expense, and to the satisfaction of the ENGINEER and the OWNER of the Utility.

3.1.2 Existing Utilities Not Shown on the Drawings: It shall be the CONTRACTOR's responsibility to exercise all reasonable precaution in the performance of the work to avoid damage to or interference with any utilities services, even though not shown on the drawings. If such damage, interference, or interruption of service shall occur as the result of this work, then the CONTRACTOR's responsibility will be the same as stipulated in Paragraph 2.1 above.

3.2 EXCAVATION AND BACKFILL - General Requirements:

3.2.1 Pavement, gutters, sidewalks, aprons and curbs which will be disturbed by excavation shall be removed and disposed of as a part

of ordinary excavation. That which is to be removed shall be cut or sawn along clean straight lines from that which is to remain. Remove enough such that a minimum of twelve inches of undisturbed earth remain between the excavation and that which is to remain.

3.2.2 Where required, and as approved by the ENGINEER, sheeting and bracing shall be used to prevent injury to persons, caving of trench walls and to conform with all governing laws and ordinances. Sheeting and bracing shall be left in place until the trench is refilled to a safe limit. The top portion may then be removed, but the lower portion shall remain undisturbed.

3.2.3 It is the responsibility of the CONTRACTOR to provide an adequate dewatering system where required. The system shall be capable of removing any water that accumulates in the excavation and maintaining the excavation in a dry condition while construction is in progress. The surface of the ground shall be sloped away from the excavation or piping provided to prevent surface water from entering the excavation. Disposal of water resulting from the dewatering operation shall be done in a manner that does not interfere with normal drainage, and does not cause damage to any portion of the work or adjacent property. All drains, culverts, storm sewers and inlets subject to the dewatering operation shall be kept clean and open for normal surface drainage. The dewatering system shall be maintained until backfilling is completed or as otherwise directed by the ENGINEER. All damage resulting from the dewatering operation shall be repaired by the CONTRACTOR to the satisfaction of the ENGINEER and at no cost to the OWNER.

3.3 The CONTRACTOR shall erect, maintain, and safeguard temporary bridges, walkways, or crossings where it is necessary to maintain traffic. Where trenches are open in the vicinity of pedestrian or vehicular travel lanes, suitable carriers will be constructed and maintained and the work will be further protected from sunset to sunrise with a sufficient number of lights or flares to fully protect the public from accidents on account of construction.

3.4 If the specified depth for foundations proves insufficient to reach firm ground, the ENGINEER shall be notified and will furnish instructions for proceeding with the work.

3.5 ROCK, wherever used as a name for excavation material, shall mean boulders exceeding one-half cubic yard in volume or solid ledge rock, which in the opinion of the ENGINEER, requires for its removal drilling and blasting, or wedging or sledging and barring. Where rock excavation is necessary, the CONTRACTOR shall excavate the same as near the neat lines of the trench as practicable and he shall take all due precautions in the pursuance of the work. He will be held strictly responsible for all injury to life and to public and private property.

3.5.1 Rock shall be removed from the excavation to the following limits:

- a. Trenches - The diameter of the pipe plus 8-inches on each side, extending six inches below the pipe wall and bell.
- b. Structures - 12-inches beyond the vertical plane of the structure on all sides and on the bottom only to the depth necessary for proper installation.

3.6 BLASTING: Prior to commencing any blasting operations the CONTRACTOR shall notify the ENGINEER and either the Local Fire Department - Fire Prevention Section or the County Fire Administrator (as applicable) and obtain blasting permits as required. The CONTRACTOR must furnish proof (certification) of insurance specifically covering any and all obligations assumed pursuant to the use of explosives.

All blasting operations shall be conducted in strict accordance with any and all decrees, rules, regulations, ordinances, laws as may be imposed by any regulatory body and/or agency having jurisdiction over the work relative to handling, transporting, use and storage of explosives. Blasting shall be done only by competent, and experienced men whose activities shall be conducted in a workmanlike manner. Satisfactory information must be provided to the ENGINEER, that the blaster meets or exceeds the qualifications enumerated in OSHA Regulations Part 1926, Subpart U, Section 1926.901 - Blaster Qualifications.

3.6.1 Overburden: Undisturbed overburden may be deemed adequate in lieu of matting but only after the actual depth of the undisturbed overburden has been determined and adjudged sufficient by the ENGINEER. Under no circumstances will loose or fill overburden be adequate without the use of weighted mats.

3.6.2 Permission to Blast: The CONTRACTOR shall not be allowed to blast before 9 a.m. or after 3 p.m. without approval of the ENGINEER and OWNER. Blasting will not occur within any rights-of-way maintained by any agency (D.O.T., R.R., Gas, OWNER, etc.) without specific approval of the controlling agency and only in accordance with their respective requirements (as exceeded herein).

The CONTRACTOR shall be held responsible for any and all injury to persons or damage to public or private property.

PART 4 STRUCTURE EXCAVATION AND BACKFILL

4.1 STRUCTURE Excavation shall be made at the locations shown on the plans and to the exact subgrade required. Bottom of excavations shall be level and in firm, solid material, with soft material or voids treated as specified. Excavated areas shall be kept free of water during the construction period. Where either will stand, footing trenches may be cut to the exact size of the footings; otherwise, forms shall be used. Where necessary, sides of excavations shall be shored and sheathed, or cofferdams built, as required for protection of the work and personnel.

4.1.1 Wherever excavation for a foundation extends below the water table or where specifically indicated on the plans, washed stone shall be placed to a minimum thickness of 12 inches, unless otherwise shown, prior to placing the foundation. The washed stone shall be compacted to 90% of maximum as determined by the Standard Proctor test (ASTM D698).

4.1.2 If the specified depth for foundations proves insufficient to reach firm ground, the ENGINEER shall be notified for furnishing instructions and proceeding with the work.

4.1.3 An adequate dewatering system shall be provided at all structure excavations and elsewhere as directed by the ENGINEER. If a well-point system is used, the CONTRACTOR shall submit plans to the ENGINEER for approval. The system shall be capable of removing any water that accumulates in the excavation and maintaining the excavation in a dry condition while construction is in progress. The surface of the ground shall be sloped away from the excavation or piping provided to prevent surface water from entering the excavation. Disposal of water resulting from the dewatering operation shall be done in a manner that does not interfere with normal drainage, and does not cause damage to any portion of the work or adjacent property. All drains, culverts, storm sewers and inlets subject to the dewatering operation shall be kept clean and open for normal surface drainage. The dewatering system shall be maintained until backfilling is complete or as otherwise directed by the ENGINEER. All damage resulting from the dewatering operation shall be repaired by the CONTRACTOR to the satisfaction of the ENGINEER and at no cost to the OWNER.

4.2 STRUCTURE BACKFILL shall be done with material free from large clods, frozen earth, organic material or any foreign matter, and shall evenly and carefully be placed and tamped in horizontal layers. Compaction equipment specifically designed for these purposes must be present and operational at the job site and shall be utilized throughout to obtain uniform compaction. The degree of compaction and the density shall be determined by the Standard Proctor Test (ASTM D698), with compaction requirements as follows:

<u>Percent of Maximum Density at Optimum Moisture</u>	<u>Location</u>
100	Top 12" of fill pavement or surfacing.
95	Full depth beneath all roads (paved or unpaved), driveways, sidewalks, undercut backfill for structure excavation, and lot fill.
95	All other areas not defined above.

4.2.1 No backfill shall be placed against a structural wall until all connecting structural members are in place. It shall be the CONTRACTOR's responsibility to provide compaction to such a degree that subsidence after placing shall not be detrimental to the stability or appearance of the structure, adjacent ground, or paved areas. The CONTRACTOR shall provide adequate protection to all structures during backfilling and shall use every precaution to avoid damaging or defacing them in any way. CONTRACTOR shall be responsible for the protection of all structures from damage or flotation prior to backfill being placed.

4.2.2 Unless otherwise approved by the ENGINEER, liquid-retaining structures shall not be backfilled until tested for leakage.

PART 5 UNSTABLE SUBGRADE

5.1 Should unstable soil, organic soil, or soil types classified as fine-grained soils (silts and clays) by ASTM D-2487 be encountered in the bottom of pipe trenches or structure excavations, such soils shall be removed to a depth and width determined by the ENGINEER, properly disposed of and shall be backfilled with crushed stone conforming to the Department of Transportation Specifications, Size 57. Placement shall not exceed 12-inches loose and compacted to 90% of the dry density determined by the Standard Proctor test ASTM D698 (Class 2000 concrete may be substituted in place of #57 stone at the CONTRACTOR's option. A 24-hour cure must be given before proceeding with the work).

PART 6 SITE GRADING

Site grading shall conform to the grades indicated by the finish contours on the plans. Where topsoil, pavement, gravel or crushed stone surfacing and other items are shown, rough grade shall be finished to such depth below finish grade as necessary to accommodate these items. All areas where structures are to be built on fill shall be stripped to such depth as necessary to remove turf, roots, organic matter and other objectionable materials.

6.1 EXCAVATION shall be made to the exact elevations, slopes and limits shown on the plans.

6.1.1 Material excavated may be used as fill material as long as it meets the material requirements established herein. Acceptable material must be stockpiled neatly onsite and clear of all unsuitable materials to be removed from the site.

6.2 FILL: Shall incorporate only acceptable materials defined herein. It shall not contain organic material, roots, debris or rock larger than 6 inches in diameter.

6.2.1 Where fill is to be placed, all existing vegetation, roots and other organic matter down to 12 inches below grade shall be stripped and disposed of as directed.

6.2.2 After clearing existing vegetation, at the ENGINEER's discretion, the site may require proof rolling to ensure that all unstable material has been removed. Proof rolling shall be done in the ENGINEER's presence, utilizing a fully loaded pan or tandem axle truck.

6.2.3 Fill shall be placed in successive compacted layers not to exceed 6 inches compacted thickness. Each layer shall be spread evenly and compacted as specified below before the next layer is placed.

6.2.4 Rock shall not be incorporated in fill sections supporting pavement or structures.

6.2.5 Where natural slopes exceed 3:1, horizontal benches shall be cut to receive fill material. Slopes of less than 3:1 and other areas shall be scarified prior to placing fill material.

6.2.6 Borrow material, as required, shall be provided by the CONTRACTOR at his own expense. Borrow material on site may be utilized provided it complies with these specifications.

6.3 COMPACTION: Unless otherwise noted, each layer of fill and backfill and the top 12 inches of existing subgrade material in cuts shall be compacted by approved equipment as specified below. The degree of compaction and the density shall be determined by the Standard Proctor Test (ASTM D698).

	Percent of Max. Dry Density at <u>Optimum Moisture Content</u>
Top 12 inches of fill under pavement or surfacing	95%
Fill under roads, structures, and lots	95%
Fill and backfill in other areas	95%

Material too dry for proper compaction shall be moistened by suitable watering devices, turned and harrowed to distribute moisture, and then properly compacted. When material is too wet for proper compaction, operations shall cease until such material has sufficiently dried.

PART 7 COMPACTION TESTS

The CONTRACTOR shall provide compaction tests by an independent testing agency selected by the CONTRACTOR and approved by the ENGINEER. CONTRACTOR to coordinate with independent testing agency for tests. The compaction tests shall be taken at appropriate locations and frequency to demonstrate that the backfill (or fill) has been placed to meet the minimum compaction density required. The testing agency shall submit written test records to the ENGINEER for all compaction tests performed. Minimum testing shall be:

1. One test per 250 L.F. of trench cut for every 2 feet of backfill placed.
2. One test per 10,000 square feet of fill placed for every foot of fill thickness.

In the event that the soil compaction is not in compliance with these specifications, then the CONTRACTOR shall take corrective action, at no cost to the OWNER, to compact the soils within the limits of the specifications. The ENGINEER shall be notified within 24 hours of any failing compaction tests. Any retesting of failed areas shall be performed only after corrective measures have been made by the CONTRACTOR to bring the compacted soils into compliance. All retesting shall be performed with the ENGINEER present.

PART 8 SITE RESTORATION

8.1 General: All surfaces disturbed by the CONTRACTOR in the work shall be restored to a condition equal to or better than that which existed prior to commencement of the work, except as otherwise specified herein.

8.2 Pipe drains, headwalls, catch basins, curbs and gutters, and all incidental drainage structures shall be restored using like materials and details at no additional cost to the OWNER. The CONTRACTOR shall maintain drainage during construction.

8.3 All cuts, fills and slopes shall be neatly dressed off to the required grade or subgrade, as indicated on the plans.

8.4 Grassed areas shall be restored at no additional cost to the OWNER. Disturbed areas shall be covered with two (2) inches of topsoil, furnished by the CONTRACTOR from an approved source and of approved quality, then shall be fertilized, and seeded to match existing adjoining areas. All ditches shall be restored to their existing grade, line and cross section.

8.5 Paved surfaces shall be restored in accordance with the provisions of Section 32 1216.3.

(End of Section 02200)

PART ONE – DESCRIPTION:

This portion of the project includes the excavation, undercut excavating, grading, earthwork and compaction required as shown on the plans and all other associated miscellaneous items of earthwork construction, as shown on the plans. The CONTRACTOR shall furnish all materials, labor, equipment and incidental items necessary to complete this portion of the work as detailed on the plans and as called for in these Specifications.

1.1. Any reference to standard specifications refers to the most current published date published of the following specification or regulation unless otherwise noted.

All unclassified excavation shall be in accordance the latest version of the "Standard Specifications for Highway Construction", published by the South Carolina Department of Transportation, unless otherwise directed herein.

1.2. Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted:

Reference the following specifications for related work:

02110 Clearing and Grubbing

02933 Seeding and Mulching

ASTM D698C

State Highway Specifications referred to in Section 1.1

1.3. Definitions

Trench Rock: That rock within the trenching limits that must be removed for utility construction.

Mass Rock: That rock which must be removed by blasting to permit reaching one foot below the design finish grade.

Geotechnical Engineer, also known as the "Project Geotechnical Engineer": Professional soils engineer hired by the CONTRACTOR and approved by the ENGINEER for this project.

Surveyor: Licensed surveyor hired by the CONTRACTOR and approved by the ENGINEER for this project.

PART TWO – MATERIALS:

2.1. Topsoil shall be considered to mean original surface soil, typical of the area, which is capable of supporting native plant growth, and shall be free of large stones, roots, brush, waste, construction debris and other undesirable material or contamination.

2.2. All fill used for site grading operations should consist of a clean (free of organics and debris) low plasticity soil (plasticity index less than 30).

PART THREE – INSTALLATION:

3.1. General Requirements

- 3.1.1. In the event a subsurface investigation report has been prepared for this project, all excavation, filling and grading shall be performed in accordance with the recommendations of the subsurface report, and under the direction of the project geotechnical ENGINEER.
- 3.1.2. Construction stakeout will be by a licensed survey firm provided by the CONTRACTOR. Exact locations and grade points are to be staked or fixed by the surveying firm before construction. The CONTRACTOR shall not disturb any benchmarks, reference stakes or property line monuments. In the event it becomes necessary to remove any benchmark, reference stake or property line monument in the performance of the work, the CONTRACTOR shall reference such points in preparation for replacement. If any such points are disturbed or damaged, they shall be replaced by a Registered Land Surveyor in the state where the work is located at the expense of the CONTRACTOR.
- 3.1.3. Existing utility lines (either overhead or underground), sidewalks, fencing, pavement or other structures shown on the drawings, shown to the CONTRACTOR or mentioned in the plans and specifications shall be kept free of damage by the CONTRACTOR's operations. It shall be the responsibility of the CONTRACTOR to verify the existence and location of all underground utilities within the Project Site. The omission from or the inclusion of utility locations on the plans is not to be considered as the non-existence of or a definite location of existing underground utilities. Any existing construction damaged by the CONTRACTOR shall be restored to an equal condition as that existing at the time prior to damage, at the CONTRACTOR's expense. If any existing utility is inadvertently damaged during construction, the CONTRACTOR shall notify the utility, the ENGINEER and the OWNER of said damaged utility at once so that emergency repairs may be made at the CONTRACTOR's expense and to the satisfaction of the party having jurisdiction of the utility.

3.2. Unclassified Excavation

- 3.2.1. Upon completion of the stripping operations, and after all excavation of the site has been completed to the lines and grades shown on the drawings, the exposed subgrade in cut areas should be proofrolled as specified herein for areas to receive fill. Any areas which deflect, rut or pump excessively during the proofrolling or fail to "tighten up" after successive passes should be undercut to suitable soils and replaced with compacted fill.
- 3.2.2. All site excavation shall be unclassified regardless of the nature of the materials encountered with the exception of rock excavation. Only that material which in the

opinion of the ENGINEER cannot be removed with a caterpillar D-9 or equal, equipped with a properly fitted single tooth ripper, or removed by a caterpillar 225 backhoe or equal, equipped with rock teeth, will be regarded as rock. The ENGINEER should be notified immediately if rock is encountered. All excavation materials which are not required for fills shall be considered as waste and shall be disposed of off the OWNER's property unless directed otherwise by the OWNER in writing.

- 3.2.3. All site excavation of previously stockpiled or buried construction, clearing or demolition debris or any other refuse shall be properly disposed of offsite at the CONTRACTOR's expense. The CONTRACTOR shall obtain all necessary Federal, State or Local permits for transporting and disposing of such material, at his expense.
- 3.2.4. Rock in the bottom of roadway cuts shall be excavated to a depth of 1 foot below the roadbed and ditches. Rock in building pad areas shall be excavated to a depth of 1 foot below finished grade or as indicated on the grading plans.
- 3.2.5. The CONTRACTOR shall provide all sheeting, shoring, underpinning and bracing required to hold the sides of the excavation and for the protection of all adjacent structures. The CONTRACTOR shall be held responsible for any damage to any part of the work by failure of excavated sides or bottoms.

3.3. Blasting

- 3.3.1. Any and all blasting operations shall be conducted in strict accordance with existing ordinances and regulations relative to storage and use of explosives. Blasting shall be done only by experienced men and extreme caution and care shall be exercised to prevent injury to persons or damage to any pipe, mains, wires, drains, buildings, railroad tracks or other property above or below the surface of the ground. The CONTRACTOR shall use safety nets or other equivalent measures as approved by the ENGINEER to reduce the possibility of flying rock as a result of blasting operations. The CONTRACTOR shall be held strictly responsible for any injury to persons or damage to public or private property.
- 3.3.2. The CONTRACTOR shall submit blasting plans to the ENGINEER for review and shall not proceed with blasting operations until approval has been granted. As directed by the ENGINEER, blasting operations shall be monitored to insure that vibration levels produced by blasting are within tolerable limits.
- 3.3.3. The CONTRACTOR shall obtain at his expense, all Federal, State and Local permits required to perform blasting operations.

3.4. Dewatering

- 3.4.1. The CONTRACTOR shall control the grading in all areas so that the surface of the ground will be properly sloped, diked or ditched to prevent water from entering into excavated areas. The CONTRACTOR shall maintain sufficient personnel and equipment

to promptly and continuously remove all water, from any source, entering or accumulating in the excavation or other parts of the work. All water pumped or drained from these areas shall be disposed of in a suitable manner without damaging adjacent property or other work under construction.

3.5. Embankments, Fills and Backfills

- 3.5.1. Upon completion of the stripping operations, the exposed subgrade in areas to receive fill should be proofrolled with a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons, under the supervision of the geotechnical ENGINEER. The proofrolling procedure should consist of four complete passes of the exposed areas with two of the passes being in a direction perpendicular to the preceding ones. Any areas that deflect, rut or pump excessively during the proofrolling or fail to "tighten up" after successive passes should be undercut to suitable soils and replaced with compacted fill.
- 3.5.2. Embankments and fills shall be constructed at the locations and to the lines and grades indicated on the drawings. Material shall be placed in horizontal layers not to exceed 8 inches in loose depth and thoroughly compacted prior to placing each following layer. All fill material shall be free from roots or other organic material, trash, and from all stones having any one dimension greater than 6 inches. Stones larger than 4 inches, maximum dimension, shall not be permitted in the upper 6 inches of fill or embankment. Fill areas shall be kept level with graders or other approved devices.
- 3.5.3. Embankment and fill compaction shall be accomplished by thoroughly compacting each layer with sheep foot rollers, pneumatic rollers, and mechanical tampers in places inaccessible to rollers, or other equipment. When material has too much moisture, grading operations shall be limited to drying soil by spreading and turning for drying by the sun and aeration. When material is dry, moisture shall be added by sprinkling by approved means.
- 3.5.4. All embankments and fills shall be compacted to the following percentages of the maximum dry density as determined by the Standard Proctor Density Test, ASTM D-698, Method C.

- 3.5.5. The following table shall be used unless otherwise specified:

<u>TABLE OF COMPACTION</u>		
Type Fill or Embankment	Zone	Minimum Density %
Structure	All Depths	98
Roadway & Sidewalks	Top 12 Inches	98
Other Areas	Remainder	95

Embankment types are defined as follows:

Structure - beneath concrete slabs of buildings, floors, foundations, etc.
Roadway and Parking - beneath all roads, streets, truck operations, and automobile parking lots

3.5.6. Where backfilling is required after the completion of drainage structures, all forms, trash, and construction debris shall be removed from excavation before backfilling begins. Backfill shall be placed in horizontal layers of 6 inches in loose depth. Compaction shall conform to requirements in the above table. Heavy rollers, crawler equipment, trucks or other heavy equipment shall not be used for compacting backfill within 5 feet of structure walls or other facilities which may be damaged by their weight or operation. No backfilling shall begin until concrete and masonry walls are properly cured.

3.5.7. The CONTRACTOR shall carry the top of embankments, fills, or backfills to the surrounding grade so that upon compaction and subsequent settlement, the grade will be at proper elevation. Should settlement occur during the guarantee period of the contract, the CONTRACTOR shall provide sufficient fill to bring area up to finished grade and shall reseed as required.

3.6. Proofrolling Schedule

3.6.1. Proofrolling under the observation of the geotechnical ENGINEER will be performed using a loaded dumptruck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons as specified herein and as follows.

3.6.2. Immediately following stripping, all areas to receive fill shall be proofrolled as specified herein.

3.6.3. Immediately following the completion of excavation to proposed grades in cut areas, proofrolling shall be performed as specified herein.

3.6.4. Immediately prior to stone base course placement in pavement areas and following final floor slab preparation, all subgrade areas will be proofrolled. Any local areas that deflect, rut or pump under the roller shall be undercut and replaced with compacted fill material as specified herein.

3.7. Soil Inspection and Tests

3.7.1. All excavated and fill material shall be removed, selected, placed and compacted under supervision of a representative of a commercial soils testing laboratory which will be selected by the CONTRACTOR and approved by the ENGINEER. A commercial soil testing laboratory shall be any firm properly equipped to perform such compaction tests and who has in their employment a Professional ENGINEER experienced in testing and soil mechanics. The laboratory representative shall have the authority to approve or disapprove the condition of the subgrade on which fill is to be placed, filled material,

placement methods, compaction methods, and shall make compaction density tests as necessary to determine that the specified density is obtained. The CONTRACTOR shall notify the laboratory at least three (3) days prior to starting fill operations in order that suitability of material for compaction may be checked and no material shall be used that has not been previously checked and approved by the laboratory. The laboratory shall be notified before any cut is made or fill is placed in order that the laboratory representative may be present during all grading operations. The CONTRACTOR shall remove, replace, recompact and retest all fills failing to meet the density requirements at his own expense.

- 3.7.2. A soil testing laboratory shall be retained by the CONTRACTOR and approved by the ENGINEER to supervise fill placement and compaction. Extra time and trips caused by excessive delay, failure of the CONTRACTOR to properly coordinate with the laboratory, or failure of the CONTRACTOR to properly compact fill material shall be the responsibility of the CONTRACTOR.
- 3.7.3. Field density tests shall be performed by the OWNER's testing agency for each one foot of fill material placed at the following frequency: once per day.
- 3.7.4. A minimum of one field density test shall be made for each 5,000 square feet of fill placement in building areas.
- 3.7.5. A minimum of one field density test shall be made for each 10,000 square feet of fill placement in all other areas where pavement is to be placed.
- 3.7.6. Prior to final acceptance, the Soils ENGINEER and Surveyor shall submit certification specifying that the project compaction criteria and subgrading elevations have been satisfactorily obtained. The CONTRACTOR is responsible for the certification statement from the Surveyor. This certification should be in the form of a letter accompanied by a stamped as-built drawing showing spot elevations.

3.8. Borrow and Waste Materials

3.8.1. Borrow

In the event borrow material is required, the borrow material shall be checked for suitability for compaction and approved by the soils testing laboratory. The CONTRACTOR shall notify the laboratory at least three (3) days in advance of beginning borrow operations. Borrow excavation shall be performed in accordance with referenced State Highway construction Specification in which state the project is located except where modified herein.

3.8.2. Waste

Excavated materials not suited for backfill and excavated material in excess of that needed to complete the work shall be wasted on the project site where directed by the ENGINEER or hauled off the OWNER's property at the CONTRACTOR's expense.

Waste areas shall be left in a graded and sloped condition to allow natural drainage of surrounding area.

3.9. Residual Soil Areas

If proofrolling indicates that on-site virgin soils supporting any roadway, parking, building or other structural areas are not adequate as determined by the Soils ENGINEER, then these unsuitable areas shall be repaired by the CONTRACTOR. The necessary repair procedure shall be determined by the Soils ENGINEER and may include scarifying, drying and recompaction procedures or undercutting and replacement procedures.

3.10. Final Grading

3.10.1. On completion of all grading, all graded areas (except building pads and pavement areas in rough grading contracts and all cut slopes steeper than 4:1 slope) shall be provided with 4 inches of topsoil and brought to the finished grades shown on the drawings. Areas disturbed by operations of the CONTRACTOR shall be properly returned to their original condition with a topsoil covering of 4 inches.

3.10.2. After the entire graded area has been brought to the finished grades shown on drawings, all areas shall be left smooth and free from erosion, ridges, ditches and evidence of ponding. Final grades shall be free from all roots, debris, rock and soil lumps and left in readiness for seeding.

3.10.3. Prior to acceptance of the entire project, the CONTRACTOR shall correct all embankments and graded areas of all damages due to washes, settlement, erosion, equipment ruts or any other cause at his expense.

3.10.4. Prior to final acceptance, the CONTRACTOR shall provide certification as specified in paragraph 3.7.6 that all grades are + .1 foot of the finished grades shown on project drawings.

3.10.5. The CONTRACTOR shall stabilize all disturbed areas, unless otherwise directed, by seeding and mulching per section 02933 of these specifications or other means of stabilization called for by the contract drawings.

3.11. Clean-Up

Upon completion or termination of the work, and before final payment is made, the CONTRACTOR shall remove from site all equipment, waste materials and rubbish resulting from his operations. In the event of his failure to do so, the same may be done by the OWNER at the expense of the CONTRACTOR.

(End of Section 02210)

INTENTIONALLY BLANK

PART ONE - GENERAL

1.1 Related Documents

1.1.1 General: Requirements of the General and Supplemental Conditions apply to all Work in this Section. Provide all labor, materials, equipment, and services indicated on the Drawings, or specified herein, or reasonably necessary for or incidental to a complete job.

1.2 Description of Work

1.2.1 General: The extent of excavation and backfill is limited to the areas of construction, and includes (but is not necessarily limited to) stockpiling of topsoil, site grading, excavation of footings and trenches, dewatering, filling, backfilling, compaction, finish grading, and spreading of topsoil.

1.2.2 Perform all excavation, dewatering, sheeting, bracing, and backfilling in such a manner as to eliminate all possibility of undermining or disturbing the foundations of existing structures.

1.3 Related Work Specified Elsewhere

Demolition & Removal	Section 02050
Earthwork	Section 02200
Erosion Control	Section 02270

1.4 Quality Assurance

1.4.1 Referenced Standards: Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Any requirements of these Specifications shall in no way invalidate the minimum requirements of the referenced standards. Comply with the provisions of the following codes and standards, except as otherwise shown or specified.

ASTM C33	Standard Specification for Concrete Aggregate
ASTM D698	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb. (2.49 kg) Rammer and 12-inch, (304.8 mm) Drop
ASTM D3282	Recommended Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
SCDOT	South Carolina Department of Transportation Highway Standard Specifications, Latest Edition

1.5 Soil Testing and Inspection Service: At the option of the OWNER, an independent testing laboratory may be hired to make additional compaction tests of all fill areas. Rework any fill areas which fail to meet the compaction requirements as herein specified and perform this work at no additional cost to the OWNER. If testing is deemed necessary, it will be provided by the OWNER and paid for by the OWNER, except those tests which reveal non-conformance with the Specifications and all succeeding tests for the same area, until conformance with the Specifications is established shall be at the expense of the CONTRACTOR.

1.6 Job Conditions

1.6.1 Existing Utilities: Prior to beginning any excavation, locate all existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

1.6.1.1 Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the ENGINEER immediately for directions as to procedure. Cooperate with and OWNER utility companies in keeping respective services and facilities in operation. The CONTRACTOR shall repair damaged utilities to the satisfaction of the OWNER the and utility companies at no additional cost to the. OWNER

1.6.1.2 Do not interrupt existing utilities serving facilities occupied and used by others, except when permitted in writing by the, OWNER and then only after acceptable temporary utility services have been provided.

1.6.1.3 Demolish, and completely remove from site, existing underground utilities that are no longer active and conflict with construction. Coordinate with utility companies for shut-off of services if lines are active.

1.6.2 Temporary Protection: Protect structures, utilities, sidewalks, pavements, and other facilities from damages caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

1.6.3 Sheet piling and Bracing: Make all excavations in accordance with the rules and regulations promulgated by the Department of Labor, Occupational Safety and Health Administration, "Safety and Health Regulations for Construction." Furnish, put in place, and maintain such sheet piling, bracing, etc., as may be necessary to support the sides of the excavation and to prevent any movement of earth which could in any way diminish the width of the excavation to less than that necessary for proper construction, or could otherwise injure or delay the work, or endanger adjacent structures, roads, utilities, or other improvements.

1.6.4 Dewatering

1.6.4.1 Provide pumping and drainage facilities adequate to keep the excavated area sufficiently dry from ground water and surface runoff so as not to adversely affect construction procedures or

cause excessive disturbance of underlying natural soils. The drainage of all water resulting from pumping shall be arranged so as not to cause damage to adjacent properties.

1.6.4.2 Control the grading on the site so that the surface of the ground will properly slope to prevent the accumulation of water on excavated or filled areas.

1.6.4.3 The lowering of the existing groundwater levels due to the construction activities, including dewatering, shall not cause settlement of adjacent structures which would result in damage. If required, provide cutoff walls and/or recharge system to maintain ground water levels at elevations which will not cause damage to adjacent structures or facilities.

1.6.4.4 Test borings and other exploratory operations may be made by the CONTRACTOR at no additional cost to the OWNER, provided such operations are acceptable to the ENGINEER.

1.6.4.5 Refer to Section 02140.

PART TWO - PRODUCTS

2.1 Definitions

2.1.1 Satisfactory Subgrade Soil Materials: Soils complying with ASTM D 3282, soil classification Groups A-1, A-2-4, A-2-5, and A-3.

2.1.2 Unsatisfactory Subgrade Soil Materials: Soils described in ASTM D 3282, soil classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7; also, peat and other highly organic soils, unless otherwise acceptable to the ENGINEER.

2.1.3 Cohesionless Soil Materials: Gravels, sand-gravel mixtures, sands, and gravelly-sands.

2.1.4 Cohesive Soil Materials: Clayey and silty gravels, sand-clay mixtures, gravel-silt mixtures, clayey and silty sands, sand-silt mixtures, clays, silts, and very fine sands.

2.2 Soil Materials

2.2.1 Backfill and Fill Materials: Provide satisfactory soil materials for backfill and fill, free of masonry, rock, or gravel larger than 2 inches in any dimension, and free of metal, gypsum, lime, debris, waste, frozen materials, vegetable, and other deleterious matter. Use only excavated material that has been sampled, tested, and certified as satisfactory soil material.

2.2.2 Crushed Stone: Crushed stone or crushed gravel placed under structures as indicated on the Drawings or used for pipe bedding shall meet the requirement of ASTM C 33, Gradation 57.

2.2.3 Borrow Materials:

2.2.3.1 Provide from off site all materials needed in addition to site excavations. Include in the Unit Price Bid all costs for obtaining, hauling, and placing this material.

2.2.3.2 All borrow materials proposed for use must be approved by the ENGINEER before materials are hauled to the site. Notify the ENGINEER at least fourteen 14 days in advance of hauling any borrow material to the site so that borrow materials can be tested before being used.

PART THREE - EXECUTION

3.1 General

3.1.1 Inspection: Examine the areas and conditions under which excavating and backfilling is to be performed and notify the ENGINEER in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

3.1.2 Dewatering

3.1.2.1 Prevent surface water and/or ground water from flowing into excavated areas. Use berms or drainage ditches to divert surface drainage away from the excavation. Use an approved subsurface dewatering system, such as bailing, pumping or a well point system as conditions warrant, to remove ground water from areas to be excavated. The costs of dewatering shall be included in the respective bid items as required of the completion of the work in accordance with the Contract Documents. There will be no individual pay item for dewatering.

3.1.2.2 The design of the subsurface dewatering system shall allow the CONTRACTOR to develop a substantially dry and workable subgrade for the execution of subsequent operations. Ground water level shall be lowered at least three (3) feet below the final excavation elevation, prior to excavating within two feet of final subgrade elevation. Maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from the excavation.

3.1.2.3 Dispose of all water pumped or drained from the work in a suitable manner without undue interference with other work, damage to pavements, other surfaces or property. Provide suitable temporary pipes, flumes or channels for water which may flow along or across the site of the work.

3.1.3 Material Storage

3.1.3.1 Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade, and shape stockpiles for proper drainage.

3.1.3.2 Locate and retain soil materials away from edge of excavations.

3.1.4 Disposal of Surplus Material: Surplus excavated material not needed or acceptable for backfill shall, upon approval of the ENGINEER, be removed from the construction site and legally disposed of.

3.1.5 Bridging Trenches

3.1.5.1 Provide suitable and safe bridges and other crossings where required for the accommodation of travel; provide access to the property during construction and remove said structures thereafter.

3.1.5.2 Bridge or backfill trenches in any portion of the travel lanes of roads at the end of each day's operation to provide for safe travel. No additional compensation will be made for this work.

3.1.6 Protection of Streams: Exercise reasonable precaution to prevent the silting of streams. Provide, at CONTRACTOR's expense, temporary erosion and sediment control measures to prevent the silting of streams and existing drainage facilities as directed by the ENGINEER or as indicated on the Drawings.

3.1.7 Air Pollution

3.1.7.1 Comply with all pollution control rules, regulations, ordinances, and statutes which apply to any work performed under the Contract, including any air pollution control rules, regulations, ordinances and statutes, or any municipal regulations pertaining to air pollution.

3.1.7.2 During the progress of the work, maintain the area of activity, including sweeping and sprinkling of streets as necessary, so as to minimize the creation and dispersion of dust. If the ENGINEER decides that it is necessary to use calcium chloride or more effective dust control, furnish and spread the material, as directed, and without additional compensation.

3.2 Excavation

3.2.1 General: Excavation consists of the removal and disposal of all materials encountered for footings, foundations, pipe work, and other construction as shown on the Drawings. Perform all excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

3.2.2 Stripping: Remove all topsoil, vegetable matter, and organic materials over proposed excavations. Stockpile the stripped materials which are suitable for reuse and preserve for respreading on completed surfaces. Protect and maintain topsoil stockpile until needed.

3.2.3 Excavation Classification: All excavation will be performed as unclassified excavation.

3.2.4 Unauthorized Excavation: Unauthorized excavation consists of the removal of materials beyond indicated elevations without specific direction of the ENGINEER. Under footings,

foundations, bases, etc., fill unauthorized excavation by extending the indicated bottom elevation of the concrete to the bottom of the excavation, without altering the required top elevation. Lean concrete fill may be used to bring elevations to proper position only when acceptable to the ENGINEER.

3.2.4.1 Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of the same classification, unless otherwise directed by the ENGINEER.

3.2.5 Unsatisfactory Soils: At the direction of the OWNER or ENGINEER, the CONTRACTOR may be directed to remove unsuitable soils. The CONTRACTOR shall excavate the material as directed, place geotextile fabric, and bring in material that meets the specifications herein.

3.2.5.1 Payment will be made in accordance with the Unit Price for Geotextile Fabric and Select Fill.

3.3 Excavation for Structures

3.3.1 General: Conform to elevations and dimensions shown within a tolerance of plus or minus one inch, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction required, and for inspection.

3.3.1.1 In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete is placed. Trim bottoms to required lines and grades to leave solid base to receive concrete. Final footing excavations should not be allowed to remain open overnight without covering unless permitted by ENGINEER.

3.4 Trench Excavation

3.4.1 General: Perform all excavation of every description and of whatever substance encountered so that pipe or conduit can be laid to the alignment and depth shown on the Drawings.

3.4.1.1.1 Brace and shore all trenches, where required, in accordance with the rules and regulations, promulgated by the Department of Labor, Occupational Safety and Health Administration, "Safety and Health Regulations for Construction".

3.4.1.1.2 Make all excavations by open cut unless otherwise specified or indicated on the Drawings.

3.4.2 Width of Trenches: Excavate trenches sufficiently wide to allow proper installation of pipe, fittings and other materials and not more than 12 inches clear of pipe on either side at any point. Do not widen trenches by scraping or loosening materials from the sides. Where

supports, and sheeting and bracing are required, trench may be of extra width so as to permit the placing of the trench supporting material.

3.4.3 Trench Excavation in Earth: Earth excavation includes all excavation of whatever substance encountered. In locations where pipe is to be bedded in earth excavated trenches, fine grade the bottoms of such trenches to allow firm bearing for the bottom of the pipe on undisturbed earth. Where any part of the trench has been excavated below the grade of the pipe, fill the part excavated below such grade with pipe bedding material and compact at the CONTRACTOR's expense.

3.4.4 Trench Excavation in Fill: If pipe is to be laid in embankments or other recently filled material, first place the fill material to the finish grade or to a height of at least one foot above the top of the pipe, whichever is the lesser. Take particular care to ensure maximum consolidation of material under the pipe location. Excavate the pipe trench as though in undisturbed material.

3.4.5 Trench Excavation in Rock: Excavate rock, when encountered, to provide a clearance of at least 12 inches on each side of pipe, valves and fittings. Excavate trench below the bottom of the pipe barrel to a depth of 6 inches, unless shown otherwise on the Drawings, and refill with a compacted gravel bedding as herein specified or indicated on the Drawings.

3.4.6 Trench Bottom in Poor Soil: Excavate and remove unstable or unsatisfactory soils to a width and depth, as directed by the ENGINEER, and refill with a thoroughly compacted gravel bedding. The undercutting and filling with gravel bedding of unstable soils caused by flooding or insufficient dewatering shall be at the expense of the CONTRACTOR.

3.4.7 Bell Holes: Provide bell holes at each joint to permit the joint to be made properly and to provide a continuous bearing and support for the pipe.

3.5 Excavation Near Existing Utilities and Structures

3.5.1 Existing Utilities: Attention is directed to the fact that there are pipes, drains, and other utilities in locations along and adjacent to the proposed work. Where information is available as to the location of existing pipes, drains, and other utilities, the approximate locations have been indicated on the Drawings; however, the completeness or accuracy of the information given is not guaranteed.

3.5.1.1 As the excavation approaches pipes, conduits, or other underground structures, discontinue digging by machinery and excavate by means of hand tools, as directed. Such manual excavation, when incidental to normal excavation, is included in the work to be done under items involving normal excavation.

3.5.1.2 Where determination of the exact location of a pipe or other underground structure is necessary for doing the work properly, the CONTRACTOR may be required to excavate test pits

to determine such locations. When such test pits may be properly considered as incidental to other excavation, the work is understood to be included as a part of the excavation.

3.5.2 Existing Structures: Support and protect from damage all existing pipes, poles, wires, fences, guard rails, curbing, catch basins, manholes, property line markers, and other structures which do not require temporary or permanent relocation.

3.5.2.1 Restore or replace damaged items, without compensation, to the condition in which they were found immediately before the work under this project was begun.

3.6 Backfill

3.6.1 Backfill Around Structures

3.6.1.1 General: Unless otherwise specified or indicated on the Drawings, use suitable material for backfill which was removed in the course of making the construction excavations. Do not use frozen material for the backfill and do not place backfill upon frozen material. Remove previously frozen material before new backfill is placed.

3.6.1.2 Material: Approved selected materials available from the excavations may be used for backfilling around structures. Obtain material needed in addition to that of construction excavations from approved banks or other approved deposits. Furnish all borrow material needed on the work. Place and compact all material, whether from the excavation or borrow, to make dense, stable fill. Use fill material which contains no vegetation, masses or roots, individual roots over 18 inches long or more than 1/2-inch in diameter, stones over 4 inches in diameter, or porous matter. Organic matter must not exceed minor quantities.

3.6.1.3 Placing Backfill: Do not place backfill against or on structures until they have attained sufficient strength to support the loads (including construction loads) to which they will be subjected, without distortion, cracking, or other damage. Make special leakage tests, if required, as soon as practicable after the structures are structurally adequate and other necessary work has been done. Use the best of the excavated materials in backfilling within 2 feet of the structure. Avoid unequal soil pressures by depositing the material evenly around the structure. Place fill and backfill in layers not more than 6 inches thick, except as specified otherwise herein, and compact each layer evenly to the specified density. Do not backfill against concrete without ENGINEER's approval.

3.6.2 Trench Backfill

3.6.2.1 General: Unless otherwise specified or indicated on the Drawings, use No. 57 crushed stone backfill from 6" below the pipe to the springline for ductile iron and RCP pipe and use No. 57 crushed stone backfill from 6" below the pipe to the top of the pipe zone for PVC pipe. Use class II backfill to 12" above the pipe zone, install in 6" lifts. Suitable material for backfill which was removed in the course of making the construction excavations may be used to fill the remainder of the trench. Do not use frozen material for the backfill and do not place backfill on frozen material. Remove previously frozen material before new backfill is placed. Start

backfilling as soon as practicable after the pipes have been laid, or the structures have been built and are structurally adequate to support the loads, including construction loads to which they will be subjected, and proceed until its completion.

3.6.2.2 With the exception mentioned below in this paragraph, do not backfill trenches at pipe joints until after that section of the pipeline has successfully passed any specified tests required. Should the CONTRACTOR wish to minimize the maintenance of lights, and barricades, and the obstruction of traffic, he may, at his own risk, backfill the entire trench as soon as practicable after installation of pipe and the related structures have acquired a suitable degree of strength. He shall, however, be responsible for removing and later replacing such backfill, at his own expense, should he be ordered to do so in order to locate and repair or replace leaking or defective joints or pipe.

3.6.3 Materials: The nature of the materials will govern both their acceptability for backfill and the methods best suited for their placement and compaction in the backfill. Both are subject to the approval of the ENGINEER. Do not place stone or rock fragments larger than 2 inches in greatest dimension in the backfill. Do not drop large masses of backfill material into the trench in such a manner as to endanger the pipeline. Use a timber grillage to break the fall of material dropped from a height of more than 5 feet. Exclude pieces of bituminous pavement from the backfill unless their use is expressly permitted.

3.6.4 Zone Around Pipe: Place bedding material to the midpoint of the pipe and work material carefully around the pipe to ensure that all voids are filled, particularly in bell holes. For backfill up to a level of 2 feet over the top of the pipe, use only selected materials containing no rock, clods or organic materials. Place the backfill and compact thoroughly under the pipe haunches and up to the mid-line of the pipe in layers not exceeding 6 inches in depth. Place each layer and tamp carefully and uniformly so as to eliminate the possibility of lateral displacement. Place and compact the remainder of the zone around the pipe and to a height of one foot above the pipe in layers not exceeding 6 inches and compact to a maximum density of at least 100 percent as determined by ASTM D698.

3.6.5 Tamping: Deposit and spread backfill materials in uniform, parallel layers not exceeding 12 inches thick before compaction. Tamp each layer before the next layer is placed to obtain a thoroughly compacted mass. Furnish and use, if necessary, an adequate number of power-driven tampers, each weighing at least 20 pounds for this purpose. Take care that the material close to the bank, as well as in all other portions of the trench, is thoroughly compacted. When the trench width and the depth to which backfill has been placed are sufficient to make it feasible, and it can be done effectively and without damage to the pipe, backfill may, on approval, be compacted by the use of suitable rollers, tractors, or similar powered equipment instead of by tamping. For compaction by tamping (or rolling), the rate at which backfilling material is deposited in the trench shall not exceed that permitted by the facilities for its spreading, leveling and compacting as furnished by the CONTRACTOR.

3.6.5.1 Wet the material by sprinkling, if necessary, to ensure proper compaction by tamping (or rolling). Perform no compaction by tamping (or rolling) when the material is too wet either from rain or applied water to be compacted properly.

3.6.6 Trench Compaction: Compact backfill in pipe trenches to the maximum density as shown on the Drawings, or as listed in the subsection entitled COMPACTION, with a moisture content within the range of values of maximum density as indicated by the moisture-density relationship curve. CONTRACTOR is to provide compaction reports by a Geotechnical ENGINEER to the OWNER and ENGINEER.

3.7 Site Grading

3.7.1 General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finish the surface within specified tolerances; compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

3.7.2 Ground Surface Preparation Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface. Shape the subgrade as indicated on the Drawings by forking, furrowing, or plowing so that the first layer of new material placed thereon will be well bonded to it.

3.7.3 Placement and Compaction: Place backfill and fill materials in layers not more than 6 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to the required percentage of maximum density for each area classification. Do not place backfill or material on surfaces that are muddy, frozen or contain frost or ice.

3.7.3.1 In areas not accessible to rollers or compactors, compact the fill with mechanical hand tampers. If the mixture is excessively moistened by rain, aerate the material by means of blade graders, harrows, or other approved equipment, until the moisture content of the mixture is satisfactory. Finish the surface of the layer by blading or rolling with a smooth roller, or a combination thereof, and leave the surface smooth and free from waves and inequalities.

3.7.3.2 Place backfill and fill materials evenly adjacent to structures, to the required elevations. Take care to prevent wedging action of backfill against structures. Carry the material uniformly around all parts of the structure to approximately the same elevation in each lift.

3.7.3.3 When existing ground surface has a density less than that specified under the subsection entitled COMPACTION for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

3.7.4 Grading Outside Building Lines: Grade to drain away from structures to prevent ponding of water. Finish surfaces free from irregular surface changes.

3.7.5 Planting Areas: Finish areas to receive topsoil to within not more than one inch above or below the required subgrade elevations, compacted as specified, and free from irregular surface changes.

3.7.6 Walks: Shape the surface of areas under walks to line, grade, and cross-section, with the finish surface not more than zero inches above or one inch below the required subgrade elevation, compacted as specified, and graded to prevent ponding of water after rains.

3.7.7 Pavements: Shape the surface of the areas under pavement to line, grade and cross section, with finish surface not more than 1/2-inch above or below the required subgrade elevation, compacted as specified, and graded to prevent ponding of water after rains. Include such operations as plowing, discing, and any moisture or aerating required to provide the optimum moisture content for compaction.

3.7.7.1 Fill low areas resulting from removal of unsatisfactory soil materials, obstructions, and other deleterious materials, using satisfactory soil material. Shape to line, grade, and cross section as shown on the Drawings.

3.7.8 Grading Surface or Fill Under Building Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 1/4-inch when tested with a 10-foot straightedge.

3.7.9 Protection of Graded Areas: Protect newly graded areas from traffic and erosion, and keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

3.7.10 Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather prior to acceptance of work, scarify surface, reshape, and compact to required density prior to further construction.

3.8 Re-Spreading Topsoil

3.8.1 General: This work consists of preparing the ground surface for topsoil application and removing topsoil from stockpile and placing and spreading the topsoil on smooth, graded areas in accordance with these Specifications.

3.8.1.1 Supply topsoil reasonably free from subsoil, clay lumps, stones, or other similar objects larger than 2 inches in greatest diameter, brush, stumps, roots, objectionable weeds or litter, excess acid or alkali, or any other material or substance which may be harmful to plant growth or a hindrance to subsequent smooth grading, planting, and maintenance operations.

3.8.1.2 Respread topsoil on all excavated areas and areas damaged by the work.

3.8.1.3 Clear the surface of the areas to be topsoiled of all stones larger than 3 inches in greatest dimension and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, and the proper growth of the desired planting. Maintain the grades on the areas to be topsoiled in a true and even condition. Where grades have not been established, smooth grade the area and leave the surface at the prescribed grades in an even and properly compacted condition, which insofar as practical will prevent the formation of low places or pockets where water will stand.

3.8.1.4 Dump the topsoil in separate piles uniformly distributed on the designated areas so that when spread it will give a 4-inch depth of compacted topsoil over the graded area. Leave in place the piles of topsoil on any given area until it has been determined that the requirements of the Specifications have been met and spreading has been authorized by the ENGINEER. Evenly spread the topsoil over the areas by a blade grader or other equipment. Spread in such a manner that grassing operations can proceed with a minimum of soil preparation or tilling. Correct any irregularities in the surface, resulting from topsoiling or other operations, insofar as practical to prevent the formation of low places and pockets where water will stand. Do not place topsoil when it or the ground surface is frozen, excessively wet, or in a condition otherwise unsatisfactory for preparation of planting surfaces or smooth grading operations.

3.8.1.5 After the topsoil has been spread and the area smoothed to the specified grades, clear the surface of all stones, roots, other objects larger than 2 inches in greatest diameter, and of all wire, brush or other objects that may interfere with subsequent planting or maintenance operations. Remove promptly any topsoil or other dirt which may be brought upon concrete as a result of hauling of topsoil.

3.9 Compaction

3.9.1 General: Control soil compaction during construction providing at least the minimum percentage of density specified for each area classification. Compaction tests to be provided by the CONTRACTOR by a geotechnical ENGINEER. Reports to be sent to the OWNER and the ENGINEER.

3.9.2 Percentage of Maximum Density Requirements: After compaction, all fill will be tested in accordance with Method "C" of ASTM D698, unless specified otherwise. Except as noted otherwise for the zone around pipe, provide not less than the following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.

STRUCTURE FOUNDATIONS: Top 12" - 100%; remainder - 95%

UNDER BUILDING SLABS: Top 12" - 100%; remainder - 95%

UNPAVED AREAS: Compact full depth to - 95%

WALKWAYS: Top 12" - 100%; remainder - 95%

DRIVES AND PARKING: Top 24" - 100%; remainder - 95%

TRENCH BACKFILL (PAVED AREAS): Top 18" - 100%; remainder - 95%

TRENCH BACKFILL (UNPAVED AREAS): Compact full depth to - 95%

ALL OTHER BACKFILL: Top 24" - 100%; remainder - 95%.

3.9.3 Moisture Control Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to a satisfactory value, as determined by moisture-density relation tests.

3.10 Care and Restoration of Property

3.10.1 General: Enclose the trunks of trees which are to remain adjacent to the work with substantial wooden boxes of such height as may be necessary to protect them from piled material, equipment or equipment operation. Use excavating machinery and cranes of suitable type and operate the equipment with care to prevent injury to remaining tree trunks, roots, branches and limbs.

3.10.1.1 Do not cut branches, limbs, and roots except by permission of the ENGINEER. Cut smoothly and neatly without splitting or crushing. In case of cutting or unavoidable injury to branches, limbs, and trunks of trees, neatly trim the cut or injured portions and cover with an application of grafting wax or tree healing paint as directed.

3.10.1.2 Protect by suitable means all cultivated hedges, shrubs and plants which might be injured by the CONTRACTOR's operations. Promptly heel in any such trees or shrubbery necessary to be removed and replanted. Perform heeling in and replanting under the direction of a licensed and experienced nurseryman. Replant in their original position all removed shrubbery and trees after construction operations have been substantially completed and care for until growth is reestablished.

3.10.1.3 Replace cultivated hedges, shrubs, and plants injured to such a degree as to affect their growth or diminish their beauty or usefulness, by items of kind and quality at least equal to the kind and quality existing at the start of the work.

3.10.1.4 Do not operate tractors, bulldozers or other power-operated equipment on paved surfaces if the treads or wheels of the equipment are so shaped as to cut or otherwise injure the surfaces.

3.10.1.5 Restore all surfaces, including lawns, grassed, and planted areas which have been injured by the CONTRACTOR's operations, to a condition at least equal to that in which they were found immediately before the work was begun. Use suitable materials and methods for such restoration. Maintain all restored plantings by cutting, trimming, fertilizing, etc., until acceptance. Restore existing property or structures as promptly as practicable and do not leave until the end of construction period.

3.10.2 Fences: Remove fences which interfere with the CONTRACTOR's operation and (unless otherwise specified) later restore them to a condition at least as good as that in which they were found immediately before the work was begun, all without additional compensation. Restore fences as promptly as possible and do not leave until the end of the construction period.

3.10.3 Property Markers: Replace property line markers which are disturbed or removed. Have this work performed by a Registered Land Surveyor.

(End of Section 02220)

PART 1 DESCRIPTION:

The work covered by this section consists of the preparation, shaping and compaction of either an un-stabilized or stabilized subgrade, suitable for placement of base course, pavement and shoulders or for the placement of structures as called for on the plans. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.1 RELATED WORK

Any reference to standard specifications refers to the most current published date published of the following specification unless otherwise noted.

1.1.1. Reference the following specifications for related work:

Section 02200 Earthwork
ASTM C977
AASHTO T26
AASHTO T-99

Subgrade work shall conform to the "Standard Specifications for Roads and Structures" latest edition, published by the South Carolina Department of Transportation.

PART 2 MATERIALS**2.1. WATER**

Water shall be clean and free from oil, salt, acid, alkali, organic matter or other substances detrimental to the finished product. Water shall not contain more than 100-PPM chlorides or more than 500 PPM dissolved solids, and shall have a pH in the range of 4.5 to 8.5.

2.1.1. Water from a city water supply may be accepted without being tested. Water from other sources shall be tested in accordance with AASHTO T26, unless the requirement for testing is waived by the ENGINEER. The cost of testing water shall be paid by the CONTRACTOR.

2.2. LIME

Quicklime and Hydrated Lime for soil stabilization shall meet the requirements of ASTM C977 except that it shall contain a minimum of 90 percent available calcium oxide (CaO) on an LOI-free basis.

2.2.1. Hydrated Lime shall have a minimum of 85 percent passing a No. 200 sieve.

2.2.2. Quicklime shall meet one of the following gradation requirements.

"A" Gradation (% Passing)	"B" Gradation (% Passing)
3/4 in. Sieve - 100%	No. 6 Sieve 100%
1/8 in. Sieve - 0% to 5%	

2.2.3. The CONTRACTOR shall furnish material certifications with each shipment of lime attesting that the lime meets the requirements of the specifications; however, the material shall be subject to inspection, test or rejection by the ENGINEER at any time.

2.3. STABILIZER AGGREGATE

Stabilizer Aggregate shall consist of crushed stone or gravel or other similar material having hard, strong, durable particles free of adherent coatings.

STABILIZER AGGREGATE GRADATION ACCEPTANCE CRITERIA

Column A Sieve Size	Column B % Passing
1½"	98 - 100
1"	60 - 100
½"	36 - 84
No. 4	21 - 61
No. 10	10 - 50
No. 40	0 - 34
No. 200	0 - 13
Material Passing No. 40 Sieve	
L.L.	0 - 30
P.I.	0 - 6

PART 3 INSTALLATION

3.1 GENERAL REQUIREMENTS

All subgrade preparation shall be in conformance with local and state Department of Transportation requirements.

3.1.1 The subgrade for roadways and structures shall be shaped to conform to the lines, grades and typical sections shown on the plans or established by the ENGINEER. All vegetation, organic matter or other deleterious material shall be removed and properly disposed of by the CONTRACTOR. Nor shall the soil contain stone or gravel larger than 2 inches for the full depth of the specified subgrade thickness. In areas where the subgrade is to be stabilized with aggregate, the subgrade surface may be left uniformly below grade to provide for the addition of the stabilizer aggregate.

3.1.2 All material to a depth of 12 inches below the finished surface of the subgrade shall be compacted to at least 98% of the soil's Standard Proctor maximum dry unit weight.

3.1.3 A tolerance of plus or minus 0.1+ foot from the established grade will be permitted after the subgrade has been graded and compacted to a uniform surface.

3.2 PROOF ROLLING

The subgrade for roads, parking areas and other locations designated on the plans or by the ENGINEER shall be proof rolled in accordance with local and state Department of Transportation requirements, to test for stability and uniformity of compaction. The subgrade shall be proof rolled in the presence of the ENGINEER, the OWNER'S independent testing agency or his designee using a loaded dump truck or similar pneumatic-tired vehicle with a minimum loaded weight of 25 tons. Any area of the subgrade which pumps or ruts excessively shall be considered unsatisfactory and shall be windrowed and dried or shall receive lime or aggregate stabilization as directed by the ENGINEER. The subgrade shall then be recompacted and proof rolled at no additional cost to the OWNER, repeating the above-outlined process until a stable, unyielding and uniformly compacted subgrade is provided.

3.3 LIME STABILIZED SUBGRADE

Where the existing soil is incapable of providing adequate foundation for roadways or structures or where called for on the plans, the subgrade may be stabilized using lime. The treatment of subgrade soils with lime shall be in conformance with local and state Department of Transportation requirements.

3.4 AGGREGATE STABILIZED SUBGRADE

Where the existing soil is incapable of providing adequate foundation for roadways or structures or where called for on the plans, the subgrade may be stabilized using aggregate. The treatment of subgrade soils with aggregate shall be in conformance with local and state Department of Transportation requirements.

(End of Section 02231)

INTENTIONALLY BLANK

PART 1 DESCRIPTION:

The work covered by this section consists of the construction of a base composed of an approved aggregate material delivered, placed, compacted and shaped to conform to the lines, grades, depths and typical sections shown on the plans or established by the ENGINEER.

1.1. RELATED WORK

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.1.1. Reference the following specifications for related work:

Section 02231

Subgrade

AASHTO T-180

COMPACTION

1.1.2. Aggregate Base Course work shall conform to the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation.

PART 2 MATERIALS**2.1 General Requirements**

Aggregate base course material shall consist of crushed stone, crushed or uncrushed gravel or other similar material having hard, strong, durable, particle free of adherent coatings.

PART 3 INSTALLATION:**3.1 GENERAL REQUIREMENTS**

The subgrade shall be prepared as called for on the plans in accordance with Section 32 1216.1 of these specifications prior to placement of the base material.

3.1.1 The aggregate material shall be placed on the subgrade with a mechanical spreader capable of placing the material to a uniform loose depth without segregation except that for areas inaccessible to a mechanical spreader, the aggregate material may be placed by other methods approved by the ENGINEER.

3.1.2 Where the required compacted thickness of base is 8 inches or less, the base material may be spread and compacted in one layer. Where the required compacted thickness is more than 8 inches, the base material shall be spread and compacted in 2 or more approximately equal layers. The minimum compacted thickness of any one layer shall be approximately 4 inches.

3.1.3 Each layer of material shall have been sampled, tested, compacted and approved prior to placing succeeding layers of base material or pavement.

3.1.4 No base material shall be placed on frozen subgrade or base.

3.1.5 Base course which is in place on November 15 shall have been covered with a subsequent layer of pavement structure or with a sand seal. Base course which has been placed between November 16 and March 15, inclusive, shall be covered within 7 calendar days with a subsequent layer of pavement structure or with a sand seal.

3.1.6 Failure of the CONTRACTOR to cover the base course as required above will result in the ENGINEER notifying the CONTRACTOR in writing to cover the base course with a sand seal and to suspend the operations of placing aggregate base course until such cover has been placed. This work shall be performed by the CONTRACTOR at no cost to the OWNER. In the event that the CONTRACTOR fails to apply the sand seal within 72 hours after receipt of such notice, the ENGINEER may proceed to have such work performed with other forces and equipment. The cost of such work performed by the other forces will be deducted from monies due or to become due the CONTRACTOR. The application of the sand seal by the CONTRACTOR or by others will in no way relieve the CONTRACTOR of the responsibility to maintain or repair the damaged base or subgrade, no matter what the cause of damage, at no cost to the OWNER.

3.1.7 No traffic shall be allowed on the completed base course other than necessary local traffic and that developing from the operation of essential construction equipment as may be authorized by the ENGINEER. Any defects that develop in the completed base or any damage caused by local or construction traffic shall be acceptably repaired at no cost to the OWNER.

3.1.8 The CONTRACTOR shall utilize methods of handling, hauling and placing which will minimize segregation and contamination. If segregation occurs, the ENGINEER may require that changes be made in the CONTRACTOR's methods to minimize segregation, and may also require mixing on the road which may be necessary to correct any segregation. No additional compensation will be allowed for the work of road mixing as may be required under this provision. Aggregate which is contaminated with foreign materials to the extent that the base course will not adequately serve its intended use will be removed and replaced by the CONTRACTOR at no additional cost to the OWNER.

3.2 SHAPING AND COMPACTING

Within 48 hours after beginning the placing of a layer of the base, the CONTRACTOR shall begin machining and compacting of the layer. Each layer shall be maintained to the required cross section during compaction and each layer be compacted to the required density prior to placing the next layer. Testing by OWNER's independent testing agency.

3.2.1 Each layer of the base shall be compacted to at least 100% of the Modified Proctor maximum, dry unit-weight of that obtained by compacting a sample of the material.

3.2.2 The base material shall be compacted at a moisture content which is approximately that required to produce a maximum density indicated by the above test method. The CONTRACTOR shall dry or add moisture to the material when required to provide a uniformly compacted and acceptable base.

3.2.3 The final layer of base material shall be shaped to conform to the lines, grades and typical sections shown on the plans or established by the ENGINEER. When completed, the base course shall be smooth, hard, dense, unyielding and well bonded. A broom drag may be used in connection with the final finishing and conditioning of the surface of the base course.

3.2.4 After final shaping and compacting of the base, the ENGINEER will check the surface of the base for conformance to the grade and typical section and determine the base thickness.

3.2.5 The thickness of the base shall be within a tolerance of plus or minus 0.1 feet of the base thickness required by the plans. The maximum differential between the established grade and the base within any 100-foot section shall be 0.1 feet.

3.2.6 Where the base material is placed in a trench section, the CONTRACTOR shall provide adequate drainage through the shoulders to protect the subgrade and base until such time as the shoulders are completed.

3.2.7 The CONTRACTOR shall maintain the surface of the base by watering, machining, and rolling or dragging when necessary to prevent damage to the base by weather or traffic.

3.2.8 Where the base or subgrade is damaged, the CONTRACTOR shall repair the damaged area; reshape the base to required lines, grades and typical sections, and re-compact the base to the required density at no cost to the OWNER.

(End of Section 02235)

INTENTIONALLY BLANK

PART 1 DESCRIPTION

1.1. Erosion and sedimentation control shall be provided by the CONTRACTOR for all areas of the site denuded or otherwise disturbed during construction. The CONTRACTOR shall be responsible for all installation, materials, labor, and maintenance of erosion and sediment control devices, as well as removal of temporary erosion and sediment control devices shown on the plans or required to protect all downstream properties, natural waterways, streams, lakes, ponds, catch basins, drainage ditches, roads, gutters, natural buffer zones, and man-made structures.

1.2. Erosion and sediment control procedures and facilities shall conform to all legally regulated procedures for the control of erosion and sedimentation.

1.3. RELATED WORK

See the following sections for related work.

02271	Engineering Fabrics
02275	Stone for Erosion Control
02277	Temporary Silt Fence
02933	Seeding and Mulching

1.4 REFERENCES

Any reference to standard National or State Specifications and/or Regulations refers to the most current published date of the specification or regulation unless noted otherwise.

The design, manufacture, and installation of these materials shall meet or exceed the applicable provisions and recommendations of the noted National Specifications and/or Regulations or meet the requirements of the latest revision of these specifications or regulations.

1.5 SPECIAL REFERENCES

Erosion and sediment control procedures and facilities shall conform to the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation and South Carolina Stormwater Management and Sediment Control Handbook as published by EQC, Bureau of Water, SC Department of Health and Environmental Control.

PART 2 MATERIALS

2.1. Washed stone to be used in temporary sediment basins shall be of strong, durable nature, resistant to weathering and shall be graded to conform to local and state Department of Transportation requirements.

2.2. Refer to other sections within these specifications as listed in Item 1.3 above for other material specifications required in the installation of erosion and sediment control facilities.

PART 3 INSTALLATION

3.1 GENERAL REQUIREMENTS

3.1.1 The CONTRACTOR shall follow the erosion control construction sequence schedule as shown on the contract drawings, except that should circumstances dictate that extra precaution be taken to prohibit erosion and sedimentation on the project, the CONTRACTOR will, at his own expense, take preventative measures as needed.

3.1.2 The CONTRACTOR is required to maintain all erosion and sediment control facilities to insure proper performance throughout the construction phase and until such time all disturbed areas are permanently stabilized.

3.1.3 Upon completion of construction or successful permanent stabilization of all areas which were disturbed before or during construction operations or as indicated on the construction drawings, whichever occurs last, the CONTRACTOR shall remove all temporary erosion and sediment control devices and facilities from the project site. The CONTRACTOR shall retain these items for future use or properly dispose of these items offsite.

3.1.4 The CONTRACTOR shall provide temporary or permanent ground cover as called for on the construction plans within thirty (30) working days after disturbance of any areas on the site.

(End of Section 02270)

PART ONE – GENERAL

The work covered by this Section consists of the furnishing, installing, maintaining, replacing as needed, and removing of temporary silt fence. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications. All materials and procedures shall conform to the latest version of local and state Department of Transportation requirements.

1.1. Related Work

Any reference to standard specifications refers to the most current published date published of the following specifications unless otherwise noted.

1.1.1. Reference the following specifications for related work:

02270 Erosion Control

All applicable local design manuals, codes and/or ordinances for Erosion and Sedimentation Control. (Where these design manuals, local codes and ordinances are more stringent than the State Department of Transportation, these codes and/or ordinances will control the erosion and sedimentation control procedures to be followed.)

The temporary silt fence shall conform to the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation.

PART TWO – MATERIALS:**2.1. General Requirements**

Temporary silt fence shall be a water permeable filter type fence for the purposes of removing suspended particles from the water passing through it.

2.2. Posts

Steel posts must be used. Steel posts shall be at least 5 feet in length, approximately 1-3/8 inches wide measured parallel to the fence, and have a minimum weight of 1.25 lb/ft of length. The post shall be equipped with an anchor plate having a minimum area of 14.0 square inches, and shall have a means of retaining wire and fabric in the desired position without displacement.

2.3. Woven Wire Fence

Wire fence fabric shall be at least 32 inches high but no more than 36” high, and shall have at least 6 horizontal wires. Vertical wires shall be spaced 12 inches apart. The top and bottom wires shall be at least 10 gage. All other wires shall be at least 12-1/2 gage.

2.4. Silt Fence Filter Fabric

The filter fabric shall conform to the “Standard Specifications for Highway Construction”, latest edition, published by the South Carolina Department of Transportation and the South Carolina Stormwater Management and Sediment Control Handbook as published by EQC, Water Bureau, South Carolina Department of Health and Environmental control.

Silt fence which incorporates filter fabric meeting the requirements of these State Specifications, but which fail to perform in an acceptable manner shall be replaced with silt fences which are capable of acceptable performance. All silt fences shall meet the local governmental requirements as well as the State’s requirements.

PART THREE – INSTALLATION:

3.1. General Requirements

3.1.1. The CONTRACTOR shall install temporary silt fence as shown on the plans or as required by field conditions. The silt fence shall be constructed at the locations shown on the plans and at all other locations necessary to prevent sediment transport, as directed by the ENGINEER.

3.1.2. Class A synthetic filter fabric may be used only in conjunction with woven wire fence fabric backing. Filter fabric shall be attached to the wire fence fabric by wire or other acceptable means.

3.1.3. Class B synthetic filter fabric may be used without the woven wire fence fabric backing, subject to the following conditions:

- Post spacing is reduced to a maximum of 6 feet.
- The proposed fabric has been approved by the ENGINEER as being suitable for use without the woven wire fence fabric backing.
- Fence posts shall be inclined toward the runoff source at an angle of not more than 20° from vertical.
- Posts shall be installed so that no more than 3 feet of the post shall protrude above the ground. Where possible, the filter fabric from a continuous roll cut to the length of the barrier shall be used to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with overlap to the next post. At the time of installation, the fabric will be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

3.2. Maintenance and Removal

3.2.1. The CONTRACTOR shall inspect temporary silt fences at least once a week and after each rainfall and shall make any required repairs and remove and dispose of silt accumulation immediately. Should the fabric of the silt fence collapse, tear, decompose or become ineffective, the CONTRACTOR will replace it promptly at his own expense. The CONTRACTOR shall

remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence.

3.2.2 The CONTRACTOR shall remove all temporary silt fence and associated appurtenances once all disturbed areas upland of the fence is properly and satisfactorily stabilized as called for on the plans.

(End of Section 02277)

INTENTIONALLY BLANK

PART 1 DESCRIPTION:

1.1 The work covered by this Section consists of the production, delivery, placement and compaction of various types of bituminous pavements for roadway and parking facilities. All bituminous pavement materials and installation shall conform to the "Standard Specifications for Highway Construction" latest edition, published by the South Carolina Department of Transportation (SCDOT).

1.2 The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.3 REFERENCES

Any reference to standard National or State Specifications and/or Regulations refers to the most current published date of the specifications or regulation unless noted otherwise.

The design, manufacture, and installation of these materials shall meet or exceed the applicable provisions and recommendations of the noted National Specifications or meet the requirements of the latest revision of these specifications.

PART 2 MATERIALS:

2.1 PRIME COAT: Cut-back asphalt used as prime coat shall conform to the "Standard Specifications for Highway Construction" latest edition, published by the SCDOT.

2.2 BITUMINOUS TACK COAT: Bituminous tack coat shall conform to the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

2.3 NON-STRIP ADDITIVE FOR PLANT MIX: Non-strip additive for plant mix shall conform to the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

2.4 BITUMINOUS CONCRETE BASE COURSE: Bituminous concrete base course, shall conform to the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

2.5 BITUMINOUS CONCRETE BINDER COURSE: Bituminous concrete binder course shall conform to the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

2.6 BITUMINOUS CONCRETE SURFACE COURSE: Bituminous concrete surface course shall conform to the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

PART 3 INSTALLATION:

3.1 PRIME COAT: Prime Coat shall be applied to non-bituminous base course except beneath bituminous plant mixed pavements unless otherwise required by the plans. Prime shall be applied only when the surface to be treated is sufficiently dry and the atmospheric temperature in the shade away from artificial heat is 40°F or above for plant mix and 50°F or above for bituminous surface treatment. Prime coat shall not be applied when the weather is foggy or rainy. The base shall be cleaned of objectionable dust, dirt, clay and other deleterious matter prior to placing prime coat.

3.1.1 When directed by the ENGINEER, the CONTRACTOR shall dampen the surface of the base prior to application of the prime coat. Prime coat consisting of asphalt, Grade MC-30 or Grade RC-30 shall be applied at a rate of 0.18 to 0.45 gallons per square yards at an application temperature between 90°F and 130°F.

3.2 TACK COAT:

3.2.1 Tack coat shall be applied beneath each layer of bituminous plant mix base or pavement to be placed except where a prime coat or a newly placed bituminous surface treatment mat coat has been applied, unless otherwise directed by the ENGINEER. The tack coat material shall not be diluted or mixed with water, solvents, or other materials prior to application.

3.2.2 Tack coat shall be applied only when the surface to be treated is sufficiently dry and when the atmospheric temperature is 35°F or above in the shade away from artificial heat. Tack coat shall not be applied when the weather is foggy or rainy.

3.2.3 The existing bituminous or concrete surface to which tack coat is to be applied shall be cleaned of all dust and foreign material prior to placing the tack coat.

3.2.4 Tack coat shall be uniformly applied at a rate from 0.02 to 0.05 gallons per square yard. The exact rate of application will be established by the ENGINEER. The temperature of the tack coat material at the time of application shall be within the ranges shown below:

<u>Bituminous Material</u>	<u>Temperature Range</u>
Asphalt Cement, Grade AC-20	375° F - 500° F
Asphalt, Grade RS-1H	90° F - 150° F
Asphalt, Grade CRS - 1	90° F - 150° F
Asphalt, Grade CRS - 1H	90° F - 150° F
Asphalt, Grade HFMS - 1	90° F - 160° F
Asphalt, Grade CRS - 2	125° F - 185° F

3.2.5 No more tack coat material shall be applied than can be covered with base, binder, or surface course material during the next day's operation.

3.2.6 Tack coat material shall be applied with a distributor spray bar which can be adjusted to uniformly coat the entire surface at the directed rate. A hand hose shall be used for irregular areas. Application of tack coat shall only be done in the presence of the ENGINEER or ENGINEER's representative. No base or surface mixture shall be deposited thereon until the tack coat has sufficiently cured.

3.2.7 Contact surfaces of headers, curbs, gutters, manholes, vertical faces of pavements, and all exposed traverse and longitudinal edges of each course shall be painted or sprayed with tack coat before mixture is placed adjacent to such surfaces.

3.2.8 After tack coat has been applied it shall be protected until it has cured for a sufficient length of time to prevent it from being picked up by traffic.

3.3 NON-STRIP ADDITIVE FOR PLANT MIX:

The non-strip additive shall be introduced and mixed into the asphalt cement in the presence of the ENGINEER unless it is added at the supplier's terminal and the rate, brand and grade are so noted on the asphalt cement ticket. The non-strip additive and asphalt cement shall be thoroughly mixed before being incorporated into the bituminous plant mix.

3.4 BITUMINOUS CONCRETE BASE COURSE:

3.4.1 The bituminous plant mix shall be compacted to a density of at least 90% of the maximum theoretical density.

3.4.2 No plant mix base course shall be placed that will not be covered with binder course or surface course during the same calendar year or within 15 days of placement if the plant mix is placed in January or February.

3.4.3 Should the CONTRACTOR fail to cover the plant mix as required, it will result in the ENGINEER notifying the CONTRACTOR in writing to cover the plant mix with sand seal. The application of the sand seal shall be done by the CONTRACTOR at no cost to the OWNER.

3.5 BITUMINOUS CONCRETE BINDER COURSE:

3.5.1 The bituminous plant mix shall be compacted to a density of at least 94% of the laboratory density as determined by the Marshall method of test.

3.5.2 No plant mix base course shall be placed that will not be covered with binder course or surface course during the same calendar year or within 15 days of placement if the plant mix is placed in January or February.

3.5.3 Should the CONTRACTOR fail to cover the plant mix as required, it will result in the ENGINEER notifying the CONTRACTOR in writing to cover the plant mix with sand seal. The application of the sand seal shall be done by the CONTRACTOR at no cost to the OWNER.

3.6 BITUMINOUS CONCRETE SURFACE COURSE:

The bituminous plant mix shall be compacted to a density of at least 95% of the laboratory density as determined by the Marshall method of test.

3.7 OPEN GRADED ASPHALT FRICTION COURSE

3.7.1 The existing surface shall be cleaned in an acceptable manner prior to placement of any bituminous material.

3.7.2 Any part of finished friction course which shows non-uniform distribution of asphalt cement shall be removed and replaced at no cost to the OWNER.

3.8 ASPHALT DRAINAGE COURSE

A prime coat or tack coat will not be required. The mix shall be compacted to a degree acceptable to the ENGINEER.

PART 4 TESTING:

All testing requested by the ENGINEER shall be done by the CONTRACTOR in accordance with the "Standard Specifications for Highway Construction" published by the SCDOT, latest edition.

(End of Section 02511)

PART ONE - GENERAL**1.1 Summary**

1.1.1 Concrete sidewalk shall be constructed of Portland cement concrete, at the locations and to the dimensions, lines, grades and cross section indicated on the Drawings or as directed by the ENGINEER and in conformity with the provisions and requirements set out in these Specifications.

1.1.2 Concrete driveways shall be constructed of Portland Cement concrete, at the locations and to the dimensions, lines, grades and cross section indicated on the Drawings or as directed by the ENGINEER, and in conformity with the provisions and requirements set out in these Specifications.

1.1.3 Concrete sidewalk and driveway shall include all the necessary excavation, unless otherwise indicated, subgrade and subbase preparation, backfilling, final CLEANING up and completing all incidentals thereto, as indicated on the Drawings or as directed by the ENGINEER.

1.2 Related Work Specified Elsewhere:

Excavation and Backfill
Cast-In-Place Concrete

Section 02220
Section 03300

PART TWO - PRODUCTS**2.1 Materials**

2.1.1 Materials used in the construction of sidewalks and driveways, in addition to the general requirements of these Specifications, shall conform, unless otherwise stipulated, to the following:

2.1.1.1 Concrete shall be manufactured of the materials meeting the requirements of and in accordance with the provisions and requirements for Class 3000 concrete as set out in Section 03300 of these Specifications.

2.1.1.2 Crushed stone for base shall meet the gradation requirements for Size 7 or 8 as specified in ASTM D 448 or AASHTO M43.

2.2 Form Material

2.2.1 Forms may be constructed of wood or metal.

2.2.2 The lumber to be used in the construction of wood forms shall be free of bulge or warp, of uniform width, not less than 2-inches (commercial) in thickness, except that 1-inch thickness may be used on curves and shall be sound and free from loose knots. Stakes shall be not less than 2 x 4-inch lumber of sufficient length that, when driven they will hold the forms rigidly in place.

2.2.3 Metal forms shall be approved sections and shall have a flat surface on top. They shall present a smooth surface of the desired contour, sufficiently thick and braced to withstand the weight of the concrete without bulging or becoming displaced.

PART THREE - EXECUTION

3.1 Labor

3.1.1 For finishing, competent and skilled finishers shall be provided.

3.2 Equipment

3.2.1 All equipment necessary and required for the construction of concrete sidewalks, curb and gutter, must be on the Project, proven to be in first class working condition and approved by the ENGINEER, before construction will be permitted to begin.

3.2.2 A one bag mixer will be permitted when the total output of concrete, per 10-hour day does not exceed 25 cubic yards.

3.2.3 Satisfactory floats, edgers, spades and tamps shall be furnished. Tamps of not over 8-inch diameter and weighing not less than 25 pounds shall be provided for tamping subgrade. A 10-foot longitudinal float of the inverted T-type with plough handles attached for manipulation, and a rigid float not less than 18-inches longer than the width of the walk being constructed, shall be provided.

3.3 Removal of Structures and Obstructions

3.3.1 Remove existing curbs, gutters, sidewalks, driveways and other structures shown on the drawings to be removed.

3.3.2 Cut existing concrete neatly, load and haul debris to an SCDHEC approved disposal areas.

3.4 Road and Drainage Excavation

3.4.1 Road and drainage excavation, as indicated on the Drawings or as directed by ENGINEER, shall be performed in accordance with the requirements of Section 02200 of these Specifications.

3.5 Embankment Construction

3.5.1 Embankment construction, as indicated on the Drawings or as directed by the ENGINEER, shall be performed in accordance with the provisions of Section 02200 of these Specifications.

3.6 Subgrade Preparation

3.6.1 The subgrade for sidewalks and driveways shall be formed by excavation to a depth equal to

the thickness of the concrete plus 2-inches.

3.6.2 All subgrade shall be of such width as to permit the proper installation and bracing of the forms.

3.6.3 Yielding, or unsuitable material shall be removed and backfilled with satisfactory material. Place 6-inches of graded aggregate base under commercial/industrial driveways, compacted thoroughly and finished to a smooth, unyielding surface and proper line, grade and cross section of the proposed construction.

3.7 Forms

3.7.1 All forms shall be set upon the prepared subgrade, true to lines and grade, and held rigidly in place so as to not be disturbed or displaced during the placing of the concrete. The top of the form shall be set to exact grade and the height shall be equal to not less than the thickness of the proposed concrete.

3.7.2 All forms shall be so constructed as to form the cross section, contour, etc., of the proposed construction.

3.7.3 Immediately before placing the concrete, the forms shall be given a coat of light oil and where being removed and used again, the forms shall be thoroughly cleaned and oiled each time.

3.7.4 Forms shall be removed within 24 hours after placing concrete and no pressure shall be exerted upon the concrete in removing forms.

3.7.5 When the sidewalk is to be joined to an existing sidewalk, the existing sidewalk, if not in proper condition for the junction, shall be cut to a neat line perpendicular to both the centerline and the surface, or as indicated by the ENGINEER.

3.8 Expansion Joints

3.8.1 Unless otherwise indicated on the Drawings or as directed by the ENGINEER, premoulded expansion joint filler, ½" in thickness, shall be placed at the locations and in line with expansion joints in the adjoining pavement, gutter, and not otherwise indicated on the Drawings, a ½" premoulded expansion joint filler shall be placed at intervals of not over 50 feet apart. All premoulded expansion joint filler must be cut to full width or length of the proposed construction and shall extend to within 1-inch of the top or finished surface. All longitudinal expansion joints shall be placed as indicated on the Drawings or as directed by the ENGINEER.

3.8.2 All expansion joints shall be true, even and present a satisfactory appearance.

3.8.3 All expansion joint material protruding after the concrete has been finished shall be trimmed as directed by the ENGINEER.

3.9 Manufacturing and Placing Concrete

3.9.1 Immediately before placing concrete, the depth of the proposed concrete shall be checked by means of a template cut true to the cross section of the proposed construction and any irregularities shall be corrected.

3.9.2 Immediately before placing concrete, all subgrade shall be thoroughly sprinkled or wetted.

3.9.3 Concrete shall not be placed upon a frozen subgrade or subbase.

3.9.4 Construction joints will be permitted only at grooves or at expansion joints, unless otherwise approved by the ENGINEER.

3.9.5 The concrete shall be manufactured and placed in accordance with the requirements of Section 03300 of these Specifications.

3.9.6 The concrete shall be placed immediately after mixing, the edges, sides, etc., shall be thoroughly spaded and the surfaces tamped sufficiently to thoroughly compact the concrete and bring the mortar to the surface. The concrete shall be deposited and compacted in a single layer.

3.10 Finishing

3.10.1 The concrete shall be stuck-off with a transverse template resting upon the side forms and then shall be floated with a 10 foot longitudinal float working the float transversely across the concrete with a sawing motion, always maintaining it parallel to the edges of the sidewalk, or driveway, where practicable, and in such a manner that all surplus water, laitance and inert material shall be removed from the surface. This operation shall be continued until the surface of the concrete shows no variation from 10-foot straightedge. If necessary, additional concrete shall be added to fill depressions, and the longitudinal float used again. The longitudinal float shall not be moved ahead more than one-half its length at any time.

3.10.2 When the surface of the concrete is free from water and just before the concrete obtains its initial set, it shall be gone over and finished with a wooden float so as to produce a sandy texture. The longitudinal surface variations shall be not more than 1/4-inch under a 12-foot straightedge, nor more than 1/8-inch on a five-foot transverse section. The surface of the concrete must be finished so as to drain completely at all times.

3.10.3 The edges of the sidewalks or driveways shall be carefully finished and rounded with an edging tool having a radius of 1/2".

3.10.4 The surface of sidewalks shall be divided into blocks by use of a grooving tool. Grooves shall be placed so as to cause contraction joints to be placed at a groove line, where practical. The grooves shall be spaced approximately five feet apart and the blocks shall be rectangular unless otherwise ordered by the ENGINEER. The grooves shall be cut to a depth of not less than 1-inch. The edges of the grooves shall be edged with an edging tool having a radius of 1/4-inch, and any marks caused by edging or otherwise shall be removed with a wetted brush or wooden float so as to

give the surface a uniform texture and finish.

3.10.5 The edges of the concrete at contraction joints shall be rounded with an edging tool having a radius of 1/4-inch. The top and ends, where practicable, of expansion joint material shall be cleaned of all concrete and the expansion joint material shall be trimmed so as to be slightly below the surface of the concrete. All marks caused by edging shall be removed with a wetted brush or wooden float.

3.11 Protection and Curing

3.11.1 Immediately after finishing the concrete, it shall be covered and cured in accordance with the requirements of Section 03300 of these Specifications. If the temperature falls to below freezing, satisfactory heating devices shall be placed under suitable covers to keep the temperature around the concrete at above 45 degrees F.

3.11.2 Pedestrians will not be allowed upon concrete sidewalks or driveways until 12 hours after finishing concrete, and no vehicles or loads shall be permitted upon any sidewalk or driveway until the concrete has attained sufficient strength for such traffic.

3.11.3 The CONTRACTOR shall construct such barricades and protection devices as are necessary to keep pedestrians and traffic off the sidewalks or driveways.

3.11.4 If any sidewalk or driveway is damaged at any time previous to final acceptance of the project, it shall be repaired by removing all concrete within the limits of the grooves, and be replaced, at the CONTRACTOR's expense, with concrete of the type, kind and finish in the original construction.

3.12 Backfilling

3.12.1 Immediately after the concrete has set sufficiently, the spaces along the sides or edges of the sidewalk or driveway shall be refilled with suitable material, this material shall be in compacted layer of not over 4-inches each, until firm and solid.

3.13 Cleaning

3.13.1 All excess or unsuitable material shall be removed and disposed of in accordance with requirements of Section 02200 and 02220 of these Specifications.

3.13.2 Final clean-up shall be performed in accordance with the requirement of Section 02995 of these Specifications.

3.13.3 All material becoming the property of the OWNER shall be stored in a manner and at locations near or on the Project as directed by the ENGINEER.

(End of Section 02523)

INTENTIONALLY BLANK

PART 1 DESCRIPTION

The work covered by this Section consists of the construction of Portland cement concrete curb, curb and gutter, concrete noses and concrete gutter necessary to complete the project. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the project in conformance with the plans and specifications.

1.1. RELATED WORK

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.2. Reference the following specifications sections for related work:

02231 Subgrade

References to National Specifications for related work:

ASTM C150 - Type T Portland Cement

ASTM Material Specifications as listed Concrete Products (Section 02513 Part 2)

ASTM Testing Requirements - As listed under testing in Section 02513.3.4.2

AASHTO Material Requirements - As listed under Concrete Products (Section 02513 Part 2)

AASHTO Testing Requirements - As listed under Concrete Products (Section 02513 Part 2)

1.3. REFERENCES

The design, manufacture, and installation of these materials shall meet or exceed the applicable provisions and recommendations of the noted National Specifications or meet the requirements of the latest revision of these specifications.

1.3.1 All concrete curb, curb and gutter, and gutter installation shall conform to the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation.

1.4. The CONTRACTOR shall furnish all equipment, tools, labor, and materials necessary to complete the work in accordance with the plans and specifications.

PART 2 MATERIALS

All materials shall meet the requirements of Section 03300, Cast In Place Concrete, of these specifications.

PART 3 INSTALLATION

3.1. GENERAL

All concrete curb, curb and gutter, and gutter installation shall conform to the “Standard Specifications for Roads and Structures” latest edition, published by the South Carolina Department of Transportation.

3.2 CONCRETE

Class 3000 concrete shall be used. Prior to placing forms the base or subgrade shall have been compacted to the degree required by the applicable section of these specifications.

3.3 FORMS

Forms shall be of such section and design that they will adequately support the concrete and any construction equipment used to construct the work. Straight forms shall be within a tolerance of 1/8 inch in 10 feet from a true line horizontally and vertically. Form pins shall be metal and shall be capable of holding the forms rigidly in place during construction operations. The form sections shall be connected by a locking joint that shall keep the forms free from vertical and horizontal movement.

3.4 FINISHING

The concrete shall be given a light broom finish with the brush marks parallel to the curb line or gutter line.

3.5 JOINTS

3.5.1 Joints shall be located as shown on the plans except as otherwise provided herein. Joint spacing shall not be less than 10 feet. Where concrete is placed adjacent to Portland cement concrete pavement, the joints shall be located so as to line up with the joints in the concrete pavement.

3.5.2 Grooved contraction joints shall be formed by the use of templates or by other approved methods. Where such joints are not formed by templates, the move shall be of the depth shown on the plans.

3.5.3 Grooved butt joints shall be placed between the work and adjacent pavement except where expansion joints are required by the plans.

3.5.4 All joints shall be sealed except for joints in curb sections not having an integral gutter. In curb and gutter the joint sealer shall not be poured above the top surface of the gutter. Joints in gutter shall be filled with joint sealer to the top surface of the gutter. Joints shall be sealed before backfilling or other adjacent operations are performed.

(End of Section 02527)

PART ONE – DESCRIPTION:

This section covers cutting and replacing pavement for the installation of utilities as shown on the plans and as specified herein. Any reference to sections of state specifications shall be in conformance with the state specifications referred to in the Section 1.2.1 Related Work.

1.1.

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.1.1 Related Work

See the following sections for related specifications:

02222	Excavating, Backfilling & Compacting for Utilities
03300	Cast-in-Place Concrete:

1.3 References

Any reference to standard National or State Specifications and/or Regulations refers to the most current published date of the specification or regulation unless noted otherwise.

The design, manufacture, and installation of these materials shall meet or exceed the applicable provisions and recommendations of the noted National Specifications and/or Regulations or meet the requirements of the latest revision of these specifications or regulations.

1.3.1 See the following References to Nation Specifications for related work:

MP 1	AASHTO
M81	AASHTO
M82	AASHTO
T96	AASHTO
T176	AASHTO

PART TWO – MATERIALS:

2.1 Aggregate Base Course shall be in accordance with the SCDOT Section 305. Aggregate base course material shall consist of crushed stone, crushed stone, crushed or uncrushed gravel and other similar materials displaying hard, strong durable particles free from adherent coatings. All aggregate shall be from and approved sources in accordance with SCDOT Section 305.

2.2 Bituminous Paving

2.2.1 Bituminous Prime Coat: Cut-back asphalt used as prime coat shall conform to SCDOT Section 401.

2.2.2 Bituminous Base Course: Shall conform to SCDOT Section 401 and 402.

2.2.3 Bituminous Tack Coat: Shall conform to SCDOT Section 401 and 402.

2.2.4 Bituminous Surface Coat: Shall conform to SCDOT Section 403 and 404.

2.3. Portland Cement Course

Shall be composed of Portland cement, coarse aggregate, fine aggregate and air entraining agent in accordance with Section 03300. Other admixtures may be added with the ENGINEER's approval. All concrete shall be Class 4000 concrete with a minimum of 4000 psi compressive strength at 28 days. The concrete shall be air entrained to provide an air content of 4.5 percent plus or minus 1.5 percent.

PART THREE – CONSTRUCTION:

3.1 Pavement Cutting: Where the existing pavement is to be cut for installation of pipe or other utilities, the CONTRACTOR shall cut the pavement neatly in advance of trenching. All pavement shall be cut to a straight edge with the method of cutting subject to approval of the ENGINEER. Pavement shall be cut 12 inches wider on each side of the excavated area. Ragged or irregular edges will be redone. Concrete pavement shall be cut with a suitable concrete saw cutting equipment.

3.2 Trench Backfilling: Shall be in accordance to plans or as specified elsewhere herein.

3.3 Aggregate Base Course shall be placed and compacted in accordance with SCDOT Section 305. The base course shall be placed at the same time with the trench backfilling.

3.3.1 If the base course is designed to be used as a temporary travel surface, the additional thickness shall be placed, compacted and maintained until the permanent surface is placed. When preparing the base course for the final surface course, the base course material shall be undercut to the thickness to accommodate the surface course(s) and removed from the site, unless otherwise directed by the ENGINEER. The final thickness of the base shall be within a tolerance of plus or minus 1/2 inch of the base thickness required on the plans.

3.3.2 Backfilling with soil above an elevation to accommodate the final base thickness, to be cut-out and replaced with base material at a later date, will not be allowed.

3.4 Prime Coat

Shall be applied to non-bituminous base course beneath bituminous plant mixed pavements unless otherwise shown in the plans. The prime coat shall be applied only when the surface to be treated is dry and the atmosphere temperature in the shade is 40° F or above. Prime coat shall not be applied when the weather is foggy or rainy. The base shall be clear of debris, dirt, clay or other deleterious material prior to placing the prime coat.

3.4.1 Application of the prime coat shall consist of asphalt grade AASHTO 81 for Grade RC-70 except kinematic viscosity at 140° F, centistokes shall be a minimum of 30 and a maximum of 60; the distillate, percentage of volume of total distillate to 680°F, shall be as follows:

To 374°F	15 minimum
To 437°F	55 minimum
To 500°F	75 minimum
To 600°F	90 minimum

and the residue from the distillate to 680°F volume percentage of sample difference shall be a minimum of 50 or of shall be of asphalt grade AASHTO 82. The prime coat shall be applied at a rate of 0.18 to 0.45 gallons per square yard at an application temperature of 90° to 130°F.

3.5 Bituminous Concrete Surface Course, Type I-2

The surface course shall conform to SCDOT using Section 403 Type 1C Asphalt. **Pavement shall be replaced within the same week that it is cut.** If inclement weather delays pavement replacement, the CONTRACTOR shall not cut additional pavement until he has notified the ENGINEER and received specific permission and instructions. Any deviation from this schedule could subject the CONTRACTOR to immediate shut-down or non-payment of additional work performed until pavement repair is complete.

3.5.1 The bituminous plant mix placement and compaction shall conform to SCDOT” Section 401. If directed by the ENGINEER, density control and determination shall be in Accordance to SCDOT” Section 401.

3.6 Portland Cement Concrete shall be placed over a compacted sub-base of CABC stone with the surface damp at time of placement. The concrete patch shall equal the thickness of the surrounding pavement, but shall not be less than 4 inches thick. The concrete shall be handled to prevent segregation and kept free from mud, soil or other foreign matter.

3.6.1 Concrete placement shall not be undertaken or shall be discontinued when any of the following conditions exist:

- 3.6.1.1. When the descending air temperature in the shade and away from artificial heat reaches 40°F.
- 3.6.1.2. When the subgrade or base course is frozen.
- 3.6.1.3. When the temperature of the concrete mix exceeds 90°F.
- 3.6.1.4. When the time after batching exceeds 90 minutes.

3.6.2 Concrete finishing shall consist of screeding and floating to assist consolidation. The surface texture shall closely resemble the texture of the surrounding pavement. A uniform surface texture shall be applied by burlap dragging or other method acceptable to the ENGINEER. The use of excessive water during finishing will not be permitted.

3.6.3 Concrete curing shall be accomplished with spray compounds, polyethylene film or other methods acceptable to the ENGINEER. In no instance shall the method of curing be allowed to damage the finished surface. Any concrete with excessive surface damage will be considered defective work and removed and replaced at the CONTRACTOR's expense.

3.6.4 Concrete shall be protected from cold for a minimum of 72 hours through thermal blankets or other means acceptable to the ENGINEER. Thermal protection will be required whenever the air temperature is expected to fall below 40°F. Concrete damaged as the result of freezing shall be removed and replaced at the CONTRACTOR's expense.

(End of Section 02575)

PART ONE - GENERAL**1.1 Related Documents**

1.1.1 Requirements of the General and Supplemental Conditions apply to all Work in this Section. Provide all labor, material, equipment, and services indicated on the Drawings or specified herein or reasonably necessary for and incidental to a complete job.

1.2 Description of Work

1.2.1 This work includes the removal of pavement and later reconstruction of base and surface courses affected or damaged by the CONTRACTOR's operations whether inside or outside the normal trench limits as indicated on the Drawings and herein specified.

1.3 Quality Assurance

1.3.1 Referenced Standards: Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Any requirements of these Specifications shall in no way invalidate the minimum requirements of the referenced standards.

SCDOT South Carolina State Highway Department Standard
Specification for Highway Construction, Latest Edition

1.3.2 Qualifications of Workmen: For actual finishing of asphaltic concrete surfaces and operation of the required equipment, use only personnel thoroughly trained and experienced in the skills required.

1.4 Product Delivery

1.4.1 General: Transport asphalt cement mixtures from the mixing plant to the project site in trucks having tight, clean compartments. Provide covers over asphalt cement mixture when delivering to protect the mixture from weather and to prevent loss of heat. During period of cool weather or for long-distance deliveries, provide insulation around entire truck bed surfaces.

PART TWO - PRODUCTS**2.1 Surface Course**

2.1.1 Asphalt: Comply with the requirements of SCDOT Specifications, Section 404, ASPHALT SURFACE COURSE.

2.1.2 Composition of Mixture: Comply with the requirements of SCDOT Specifications subsection 404.2.2, Composition of Mixture. Furnish samples if requested by the ENGINEER.

2.2 Base Course

2.2.1 Stabilized Aggregate Base Course: Comply with the requirements of SCDOT Specifications, Section 308, STABILIZED AGGREGATE BASE COURSE, Type I or II gradation, without priming.

PART THREE - EXECUTION

3.1 Inspection

3.1.1 Examine the areas and conditions under which pavement will be removed and replaced and notify the ENGINEER in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

3.2 Base Course

3.2.1 Preparation of Surfacing: After the back filled trenches have had adequate time to consolidate or have been thoroughly compacted by tamping or rolling, remove the material used for backfilling to a depth required for the base and surface courses. Remove all loose and damaged material in existing paving and trim back the existing surface to ensure a satisfactory bond between it and the new paving.

3.2.2 Gravel Base Course: Construct the stabilized aggregate base course to comply with the applicable sections of SCDOT Specifications, Section 306, STABILIZED AGGREGATE BASE COURSE. Unless otherwise directed by the ENGINEER, construct the base course to the following thickness:

Transverse Cuts: 12 inches

Longitudinal Cuts: 6 inches

3.3 Hot Laid Asphalt Surface Course

3.3.1 General: Do not feather the edges between the new and existing pavement. Ragged edges will not be allowed between the new and existing pavements. The existing pavement must be cut back for sufficient width to provide straight edges as shown on the Drawings. Unless otherwise shown on the Drawings, the surface course thickness is 2 inches.

3.3.2 Installation Requirements: Comply with the requirements of SCDOT Specifications, subsection 401.3.2, Equipment Requirements, and subsection 404.3, Construction Requirements.

3.3.3 Tying to Existing Bituminous Pavement: Where new pavement ties to existing pavement, cut the existing pavement to a straight line and completely remove all materials on the new pavement side of the cut and replace with new materials. Coat the cut line with a tack coat to furnish a bond between the existing surface course and the new surface course. Do not allow the new work to overlap the existing work.

3.3.4 Maintaining Permanently Placed Surfaces Under This Contract: Until the expiration of the guarantee period, maintain surfaces placed under this Contract. Should an area settle that the CONTRACTOR has paved, he will remove the entire pavement in the area; feathering of edges will not be permitted. Add necessary sub-base material as specified herein before to the depth of the applicable surface course. Replace the surface course as herein before specified, all without additional cost to the OWNER.

3.3.5 Clean-Up: Upon completion of paving, remove all surplus materials, dunnage, cartons, and other debris resultant from work of this Section. Leave entire work in satisfactory, acceptable, broom-clean condition.

(End of Section 02616)

INTENTIONALLY BLANK

PART 1 DESCRIPTION:

The work covered by this section consists of the construction of cast-in-place or precast concrete, brick masonry or block masonry, catch basins, inlets, junction boxes, spring boxes, manholes or other minor drainage structures, excluding endwalls together with all necessary metal grates, covers, frames, steps and other hardware. The CONTRACTOR shall furnish all equipment, tools, labor, and materials necessary to complete the work in accordance with the plans and specifications.

1.1. RELATED WORK

Any reference to standard specifications refers to the most current published date of the following specifications unless otherwise noted.

1.1.1. Reference the following specifications for related work:

- AASHTO – T99 Foundation Compaction
- ASTM A48 Grey iron Casting

All drainage structures and inlets shall conform to the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation.

PART 2 MATERIALS

2.1. The CONTRACTOR may, at his option, use either cast-in-place concrete, brick masonry, block masonry, or precast concrete construction, provided that the type of construction he wishes to use is permitted by the plans, and is constructed in conformance with the local and state Department of Transportation requirements.

2.2. Shop drawings consisting of catalog cuts or fabricator drawings showing the structure, reinforcing alignment of all wall penetrations and frames, grates, or covers shall be submitted by the CONTRACTOR to the ENGINEER for approval.

2.3. IRON CASTINGS

2.3.1. Iron castings shall be boldly filleted at angles, and the arises shall be sharp and perfect. No sharp, unfilleted angles or corners will be permitted. They shall be true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow holes, and other defects affecting their strength and value for the service intended. All castings shall be sand blasted or otherwise effectively cleaned of scale and sand so as to present a smooth, clean, and uniform surface.

2.3.2. Gray iron castings shall meet the requirements of ASTM A48 for Class 30 iron.

2.3.3. Steps for minor drainage structures shall be fabricated from deformed reinforcing bars, or shall be gray iron castings or shall be of composite plastic-steel construction as shown on the plans, or as referenced above.

2.4. PRECAST DRAINAGE STRUCTURES

2.4.1. Precast drainage structures shall have no more than 4 holes cast or drilled in each unit for the purpose of handling or placing unless otherwise approved by the ENGINEER. All lift holes and handling devices shall be located in accordance with plan and design requirements. Units damaged while being handled or transported will be rejected or shall be repaired in a manner approved by the ENGINEER.

2.4.2. Precast units shall not be transported away from the casting yard until the concrete has reached the minimum required 28-day compressive strength and a period of at least 5 days has elapsed since casting, unless otherwise permitted by the ENGINEER.

2.4.3. Steps for precast drainage structures shall meet the requirements of AASHTO M199 for design, materials, and dimensions. Steps shall be incorporated in all drainage structures over 3'-6" in height. The lowest step shall be no more than 16" from the bottom.

2.4.4. The following information shall be clearly shown on each precast member.

- Date of manufacture
- Name of manufacturer

PART 3 INSTALLATION

3.1. The CONTRACTOR shall take the necessary precautions to ensure that all excavations for drainage structures are maintained in a dry condition to allow proper compaction beneath the structure and backfill once the structure has been completed.

3.2. Where the foundation material is found to be of poor supporting value or of rock, the ENGINEER may make minor adjustment in the location of the structure to provide a more suitable foundation. Where this is not practical, the foundation shall be conditioned by removing the existing foundation material by undercutting to the depth as directed by the ENGINEER and backfilling with either a suitable local material secured from unclassified excavation or borrow excavation at the nearest accessible location along the project, or foundation conditioning material consisting of crushed stone or gravel or a combination of sand and crushed stone or gravel approved by the ENGINEER as being suitable for the purpose intended. The selection of the type of backfill material to be used for foundation conditioning will be made by the ENGINEER.

3.3. The CONTRACTOR shall install poured concrete foundations or precast concrete bases for all drainage structures.

3.4. Where **PRECAST FOUNDATION** slabs are used, the slab shall be set to within plus or minus ½inch of grade on a bed of size 57 crushed stone measuring 6 inches in thickness minimum after being compacted to 98% maximum density in accordance with AASHTO T99.

3.5. PRECAST STRUCTURES

Joints on precast concrete sections shall be completely filled with bituminous mastic jointing compound or joints shall be made with cement mortar with inside pointing and outside rubber wrap.

3.6. MASONRY STRUCTURES

3.6.1. No masonry drainage structure shall be placed until the foundation has been approved by the ENGINEER.

3.6.2. Brick shall be wet when laid. Lay brick or concrete masonry units in mortar so as to form full bed, with end and side joints in one operation, with joints not more than 3/8" wide except when bricks or concrete masonry units are laid radially, in which case narrowest part of joint shall not exceed ¼". Lay in true line and whenever practical joints shall be carefully struck and pointed on inside.

3.6.3. Protect fresh masonry work from freezing, from drying effects of sun and wind, and for such time as directed by ENGINEER. In freezing weather, heat materials sufficiently to remove ice and frost.

3.6.4. The outside surfaces of brick or concrete masonry portion of drainage structures shall be plastered and troweled smooth with ½" layers of cement mortar.

3.7. BACKFILLING around all drainage structures and inlets shall be done in such a manner so as not to damage either the structure or pipes connecting to the structure. Compaction of backfilled material shall be accomplished in 6-inch lifts (loose) per section 02200 Earthwork.

(End of Section 02721)

INTENTIONALLY BLANK

PART ONE – DESCRIPTION:

The work covered by this section consists of all excavation, bedding, laying pipe, jointing and coupling pipe sections, and backfilling necessary to install the various types of pipes, pipe culverts and fittings required to complete the project. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.1 RELATED WORK

Any reference to standard specifications refers to the most current published date of the following specification unless otherwise noted.

1.2. Reference the following specifications for related work:

ASTM C76 Concrete Pipe

ASTM C507 Reinforced Concrete Elliptical Pipe

1.2.1. All drainage structures and inlets shall conform to, and installed in conformance with, the “Standard Specifications for Highway Construction” latest edition, published by the South Carolina Department of Transportation.

1.3. The CONTRACTOR shall furnish all equipment, tools, labor, and materials necessary to complete the work in accordance with the plans and specifications.

PART TWO – MATERIALS:

2.1. Drainage pipe and culverts shall conform to local and state Department of Transportation requirements.

2.2. Shop drawings consisting of catalog cuts and related data shall be submitted by the CONTRACTOR to the ENGINEER for approval.

2.3. All reinforced concrete pipe, flared end sections, tees and elbows shall be clearly marked showing the pipe class, type of wall and date of manufacture.

2.4. Reinforced concrete drainage pipe shall conform to ASTM C76, Class III, wall thickness B. Joints shall be tongue and groove.

2.5. Concrete flared end sections shall be reinforced. Concrete used in flared end sections shall attain a compressive strength of 3500 psi at 28 days.

2.6. Reinforced concrete elliptical drainage pipe shall conform to ASTM C507, Class HE-II. Joints shall be tongue and groove.

PART THREE – INSTALLATION:

3.1. GENERAL REQUIREMENTS

3.1.1. Drainage pipes and culverts of the type and quantity and in the locations as called for on the plans or as directed by the ENGINEER shall be installed in conformance with local and state Department of Transportation requirements.

3.1.2. Where proposed culverts are to be installed under existing roadways, the construction shall be performed in such a way that half the roadway will be maintained and available to traffic or as directed by the governing agency.

3.2. Unloading and Handling

All pipes shall be unloaded and handled with reasonable care. When any joint or section of pipe is damaged during unloading or handling, the undamaged portions of the joint or section may be used where partial lengths are needed or, if damaged sufficiently, the ENGINEER will reject the joint or section as being unfit for installation and the CONTRACTOR shall remove such rejected pipe from the project, at no cost to the OWNER.

3.3. PREPARATION OF PIPE FOUNDATION

3.3.1. The pipe foundation shall be prepared in accordance with the applicable method shown on the plans and shall be true to line and grade and uniformly firm. Bedding material shall be placed and shaped beneath the pipe. The pipe foundation shall be shaped to fit the outside of the pipe for at least 10% of its outside diameter under all pipe culverts. Where bell and spigot type pipe is used, recesses shall be excavated to receive the pipe bells.

3.3.2. Where the foundation material is found to be of poor supporting value or of rock, the ENGINEER may make minor adjustment in the location of the pipe to provide a more suitable foundation. Where this is not practical, the foundation shall be conditioned by removing the existing foundation material by undercutting to the depth as directed by the ENGINEER, within the limits established on the plans, and backfilling with either a suitable local material secured from unclassified excavation or borrow excavation at the nearest accessible location within the project, or foundation conditioning material consisting of crushed stone or gravel or a combination of sand and crushed stone or gravel approved by the ENGINEER as being suitable for the purpose intended. The selection of the type of backfill material to be used for foundation conditioning will be made by the ENGINEER.

3.3.3. When necessary, the CONTRACTOR shall provide for the temporary diversion of water or dewatering in order to maintain the pipe foundation in a dry condition, and shall continue to maintain the trench in a dry condition until backfill and compaction activities are complete.

3.4. LAYING PIPE

3.4.1. Rigid pipe shall be carefully laid on the prepared foundation, bell or groove end upgrade with the spigot or tongue fully inserted and each joint checked for alignment and grade as the work

proceeds. Flexible plastic joint material shall be used. Joint material of other type or design may be used when designated on the plans, by special provisions, or when permitted in writing by the ENGINEER.

3.4.2. Flexible pipe (except structural plate pipe) shall be carefully placed on the prepared foundation starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points.

3.5. BACKFILLING

3.5.1. The fill around the pipe shall be placed in accordance with the applicable method shown on the plans, and shall be placed in layers not to exceed 6 inches loose unless otherwise approved by the ENGINEER and compacted to the density required. Select backfill material shall be used when called for on the plans.

3.5.2. Care shall be taken during backfill and compaction operations to maintain alignment and prevent damage to the joints. The backfill shall be kept free from stones, frozen lumps, chunks of highly plastic clay, or other objectionable material.

3.5.3. All pipe backfill areas shall be graded and maintained in such a condition that erosion or saturation will not damage the pipe bed or backfill.

3.5.4. Heavy equipment shall not be operated over any pipe until it has been properly backfilled and has a minimum cover as required by the plans. Where any part of the required cover is above the proposed finish grade, the CONTRACTOR shall place, maintain, and finally remove such material at no cost to the OWNER. Pipe which becomes misaligned, shows excessive settlement, or has been otherwise damaged by the CONTRACTOR's operations shall be removed and replaced by the CONTRACTOR at no cost to the OWNER.

3.6. MAINTENANCE

3.6.1. The CONTRACTOR shall maintain all pipe installations in a condition such that they will function continuously from the time the pipe is installed until the project is accepted.

3.6.2. The ENGINEER may require the CONTRACTOR to thoroughly clean out and maintain all existing pipe and drainage structures at his own expense when necessary erosion control measures not taken by the CONTRACTOR resulted in fouling existing drainage systems.

3.7. REINFORCED CONCRETE PIPE

3.7.1. Reinforced concrete drainage pipe shall be installed so as to prevent damage to the pipe. Joints shall be mortar or packing type, and shall be close fitting and generally watertight. Elliptical pipe shall be installed with the major axis horizontal.

3.8. CORRUGATED STEEL PIPE

3.8.1. Bituminous coated corrugated steel pipe and paved invert pipe shall be handled with special care to avoid damage to coatings. Paved invert pipe shall be installed with the paved invert centered on the bottom.

3.8.2. The pipe sections shall be joined with coupling bands, fully bolted and properly sealed. Coupling bands for annular and helical corrugated metal pipe shall provide circumferential and longitudinal strength sufficient to preserve the alignment, prevent separation of the sections, and prevent infiltration of backfill material.

3.8.3. All pipe 72 inches or larger in diameter shall be wire braced at the place of fabrication to retain its shape while being handled, installed, and backfilled. Wire bracing shall be removed by the CONTRACTOR when no longer needed.

3.9. CORRUGATED ALUMINUM PIPE

3.9.1. The pipe sections shall be joined with coupling aluminum bands, fully bolted and properly sealed. Coupling bands for annular and helical corrugated aluminum pipe shall provide circumferential and longitudinal strength sufficient to preserve the alignment, prevent separation of the sections, and prevent infiltration of backfill material.

3.9.2. All pipe 72 inches or larger in diameter shall be wire braced at the place of fabrication to retain its shape while being handled, installed, and backfilled. Wire bracing shall be removed by the CONTRACTOR when no longer needed.

3.10. CORRUGATED STEEL AND CORRUGATED ALUMINUM ALLOY, STRUCTURAL PLATE PIPE AND PIPE ARCH

3.10.1. Erection shall be in accordance with the manufacturer's assembly diagrams and instruction sheets. All erection procedures and methods shall meet with the approval of the ENGINEER. All structural plate shall be handled with reasonable care. The plate shall not be dragged or skidded. If the spelter coating has been broken during handling or backfilling operations, the plate or the assembled pipe or pipe arch will be rejected, or shall be repaired as directed by the ENGINEER.

3.10.2. The entire pipe line shall be completely assembled before any backfill is placed, unless otherwise permitted by the ENGINEER. Elongated pipe shall be erected with the long diameter in a vertical position. Should spiraling occur during erection, the bolts shall be loosened and the pipe assembly adjusted to the correct position.

3.10.3. All bolting shall be done in a careful and workmanlike manner in accordance with the procedure specified by the manufacturer and approved by the ENGINEER before backfill is placed. All nuts shall be tightened to a minimum of 100 foot-pounds and a maximum of 200 foot-pounds of torque. Nut tightness shall be checked with a properly calibrated torque wrench before, during, and after backfill is placed.

3.10.4. Where necessary, the invert grade shall be cambered by an amount sufficient to prevent the development of sag or back slope in the flow line. The amount of camber used will be determined by the ENGINEER.

3.10.5. First class workmanship shall be used in installing the pipe and pipe arch. Evidence of defective workmanship shall include but not be limited to the following.

- Uneven laps
- Improper shaping
- Variation from a straight center line
- Ragged edges
- Loose, unevenly lined or spaced bolts
- Illegible identification stamp on any plate
- Bruised, scaled or broken spelter coating
- Dents or bends in the metal itself

3.10.6. Defective workmanship may constitute sufficient cause for rejection of the completed or partially completed work, or of any materials proposed for use in the work.

(End of Section 02722)

INTENTIONALLY BLANK

PART ONE - GENERAL**1.1 – Limits of Work**

All areas disturbed by grading and construction operations except as covered by surface construction or where noted on the plans, including the areas where surplus material is stockpiled, shall be put into perennial vegetation by seeding for temporary grassing and sodding as directed on the plans. If not directly noted on the plans then revegetation shall be by sodding.

1.2 - Scope

The type of work required includes the following: Fine grading and preparation of grass areas, seeding, and sodding.

1.3 – Lines and Grades

The CONTRACTOR shall provide his own lines and grades for the work required.

1.4 – Standards and Specifications

Generally, materials and methods shall conform to the South Carolina State Highway Department Standard Specifications for Highway Construction, latest edition and as specified herein.

1.5 - Submittals

Submit five (5) copies of type written instructions recommending procedures to be followed by the OWNER for proper maintenance and care of grasses. Submit proof that all materials meet the requirements of this section. Bag tag figures will be evidence of purity and germination of seed. No seed will be accepted with a date of test of more than nine (9) months prior to date of use. Where fertilizer is furnished from bulk storage, the CONTRACTOR shall furnish a supplier's certification of weight and analysis.

PART TWO - PRODUCTS**2.1 – Grass Seed**

Provide fresh, clean, new crop seed complying with the tolerance for purity and germination established by the Official Seed Analysis of North America and certified by the Seed Certification Department of Clemson University, as follows:

A. PENNISETUM GLAUCUM (Browntop Millet)

Testing ninety-eight percent (98%) purity and eighty-five percent (85%) germination.

B. CYNODON DACTYLON (Bermudagrass)

Testing ninety-eight percent (98%) purity and eighty-five percent (85%) germination.

C. LOLIUM MULTIFLORUM (Domestic Italian Rye)

Testing ninety-eight percent (98%) purity and ninety percent (90%) germination.

2. 2 – Other Planting Materials

Provide the following materials, all meeting or exceeding regulations of the South Carolina State Department of Agriculture, as follows:

A. Fertilizer: 15-15-15 (50% organic) with trace elements.

B. Basic Slag: Standard Grade.

C. Agricultural Sulfur: Standard Grade.

2.3 – Special Requirements

Where construction activities are stopped in an area for over fourteen (14) days, the entire area must be vegetated temporarily or permanently. This shall be in accordance with the requirements as outlined in the "NPDES General Permit for Stormwater Discharge from Construction Activities that are Classified as Associates with Industrial Activity" by EPA Regulations Permit No. SCR100000. This is in addition to the requirements for a permanent grass cover and shall be at no additional cost to the OWNER

. The CONTRACTOR shall make every effort to complete permanent grassing operations at the earliest practical date in order to complete a grass cover sufficient to protect the site from wind and water erosion.

PART THREE - EXECUTION

3.1 – Planting Seasons

Summer dates are:

3/15 to 9/1 for hulled Bermuda and unhulled Bermuda

5/15 to 9/1 for Browntop Millet

Winter dates are:

9/1 to 3/15 for unhulled Bermuda.

9/1 to 5/15 for Common Rye.

3.2 – General Requirements

A. Equipment

Equipment required for proper execution of these operations shall be present on the job site and in good working order.

B. Maintain Grades

Maintain grades in a true and even condition, including necessary repairs to previous grades and topsoiled areas.

3.3 – Soil Preparation

Limit preparation to areas which will be planted in the near future.

A. Fine Grading

Fine grade all areas to receive grassing. Care shall be taken not to disturb existing trees. Perform this work only during period of favorable weather.

B. After Fine Grading

After fine grading, clean surface of all stones and other objects larger than one inch (1") in any direction. Also, remove roots, sticks, grade stakes and other extraneous matter.

C. Aerate and Disc

Aerate and disc to a depth of three inches (3") to four inches (4") to promote acceptance and germination of seeds.

3.4 - pH Reading

Test pH reading. If reading is below 6.0, adjust to that level with an application of slag; if reading is above 6.5, adjust to that level with an application of sulfur. The testing laboratory shall be by Clemson University Soil Testing Laboratory or a laboratory approved by the Extension Service.

3.5 - Initial Application of Fertilizer

A. Flat Areas

Apply at rate of eight pounds (8lbs.) per 1,000 square feet. Distribute fertilizer and slag or sulfur uniformly over areas incorporating into soil to a depth of two inches (2") by means of hand raking, harrowing, or other approved method. At the CONTRACTOR's option, this operation may be combined with topsoil spreading specified above. NOTE: No pure nitrogen shall be applied.

B. Slopes and Swales

Combine with grassing operations as specified below. Correct any surface irregularities resulting from this operation by hand raking if necessary, and perform any other required "clean up" work before planting is begun.

3.6 - Planting

A. Temporary Lawn Seed (per 1,000 square feet)

Eight pounds (8 lbs.) of fertilizer, 15-15-15; five pounds (5 lbs.) rye grass seed; nine ounces (9 oz.) unhulled bermudagrass seed, thirty-five pounds (35 lbs) of wood fiber, one-gallon (1 gal.) tac material mixed with water.

B. Sodding

Sod shall be viable, weed free and recently harvested. Sod shall be placed on the prepared topsoil. The surface on which sod is to be laid shall be firm and free of footprints. Begin by placing sod along a straight edge and work outward. Sod of the next course shall be matched against the edge of the first line in such a way that the joints between the individual sod pieces do not coincide. Successive courses are matched against the last line laid, in the same manner. The joints shall be closely laid, filled with topsoil and rolled lightly. Surface sod shall be smooth and free of depressions.

C. Establish Lawns

It is the responsibility of the CONTRACTOR to establish a complete vegetative cover with viable healthy plants.

D. Seeding for Temporary Erosion Control Only (per 1,000 square feet)

August 1 to April 1: Three pounds (3lbs.) of rye grass seed and four pounds (4lbs.) of fertilizer.

April 1 to August 1: One-half pound (1/2lb.) browntop millet seed and four pounds (4lbs.) of fertilizer.

3.7 - Maintenance

- A. Begin maintenance immediately after any lawn area is planted and continue until the completion of the project.

- B. Maintain Lawns

Maintain lawns by weeding, cultivating, mowing at least twice, trimming, hydroseeding, seeding, or re-sodding and other operations such as re-grading and re-planting as required to establish an acceptable stand of grass.

- C. Provide Adequate Protection

Provide adequate protection at all times for all grass areas. Lay or place planks over grass for the movement of heavy materials or equipment.

- D. Repair or Replace

Repair or replace, at no additional cost to the OWNER, any portion of grassed areas not in good viable condition if so determined by the OWNER before or on the date of completion for work done prior to that time.

3.8 - Acceptance

Lawns will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy, uniform stand of specified grass is established, free of weeds, bare spots and surface irregularities. A full stand of grass is not required where irrigation has not been installed.

(End of Section 02820)

INTENTIONALLY BLANK

PART 1 - DESCRIPTION:

The work covered by this section consists of furnishing all labor, materials, and equipment to perform all necessary operations to topsoil, fine grade, fertilize, mulch and maintain temporary and permanent seeding of all graded, cleared, or disturbed areas during construction. The work covered by this section shall be in conformance with the latest version of local and state Department of Transportation requirements.

1.1. RELATED WORK

See following sections for related work.

02270	Erosion Control
SS-A617A	FS Liquid Mulch Binder

1.2 REFERENCES

Any reference to standard National or State Specifications and/or Regulations refers to the most current published date of the specification or regulation unless otherwise noted.

The work covered by this section shall be in conformance with the "Standard Specifications for Highway Construction" latest edition, published by the South Carolina Department of Transportation and the Sediment Control handbook as published by EQC, Bureau of Water, SC Department of Health and Environmental Control.

PART 2 MATERIALS**2.1. TOPSOIL**

Topsoil shall be from stockpiles created from stripping and required excavation. Should additional topsoil be required in excess of that obtained from stripping and excavation, the Contractor shall obtain material from other sources at Contractor's expense, or from approved sources off the site. The topsoil shall be natural, friable soil, possessing characteristics of representative soils in the vicinity which produce heavy growths of crops of grass. It shall be obtained from naturally well-drained areas, shall be reasonably free from subsoil, brush, objectionable weeds, and other litter and shall be free from toxic substances, clay lumps, stones, roots and other objects larger than 1 inch in diameter, or any other material which might be harmful to plant growth or be a hindrance to grading, planting, and maintenance operations.

2.2. FERTILIZER

Fertilizer shall be the product of an approved commercial fertilizer manufacturer and shall be 15-15-15 grade, uniform in composition, free-flowing material suitable for application with approved standard equipment. The fertilizer shall conform to the applicable State fertilizer laws and shall be delivered to the site in bags or other convenient containers each fully labeled and bearing the name, trademark, and warranty of the producer.

2.3. LIME

Lime shall be ground limestone containing not less than 85% of total carbonates and shall be ground to such fineness that at least 50% will pass through a 100-mesh sieve and at least 90% will pass through a 20-mesh sieve. Coarser materials will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve, but no additional payment will be made for the increased quantity.

2.4. MULCH

Mulch shall be straw from wheat or oats. Materials for securing mulch may be one of the following.

- Mulch Netting: Lightweight plastic, cotton, jute, wire or paper nets shall be used.
- Peg and Twine: Bailing twine and soft wood pegs 1/2" x 1" x 12".
- Liquid Mulch Binder: RC-2 cut back asphalt conforming to the requirements of Federal Specifications SS-A671A, and asphalt emulsion shall conform to the requirements of Federal Specification SS-A-674, Type V.
- Seed: Seed used shall conform to all state laws and regulations of the SCDA. Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable. The seed used shall be that shown in seeding schedule specified herein or on the plans.

PART 3 INSTALLATION

3.1. SEEDBED PREPARATION

3.1.1. Clearing

Prior to or during grading and tillage operations, the ground surface shall be well drained, cleared of all brush, roots, stones larger than 2 inches in diameter, or any other material which may hinder proper grading, tillage, or subsequent maintenance operations.

3.1.2. Fine Grading

Areas to be seeded shall be graded as shown on the drawings or as directed and all surfaces shall be left in an even and properly compacted condition so as to prevent the formation of depressions where water will stand. Areas to be topsoiled shall be graded to a smooth surface and to a grade that will allow topsoiling to finished grade.

3.1.3. Topsoiling

Immediately prior to placing topsoil, the subgrade, where excessively compacted by traffic or other causes, shall be loosened by scarifying to a depth of at least 2 inches to permit bonding of the topsoil to the subgrade. Topsoil shall be uniformly spread by approved equipment in sufficient quantity to provide a compacted layer of 4 inches in thickness over the designated areas and in such manner that planting can proceed with little additional soil preparation or tillage. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to the proposed planting or to proper grading. Topsoil shall be graded to the lines indicated or as directed and any irregularities in the surface resulting

from topsoiling or other operations shall be corrected to prevent formations of depressions where water will stand.

3.1.4. Tillage

After topsoiled areas required to be seeded have been brought to the grades shown on the plans and as specified, they shall be thoroughly tilled to a depth of 3 inches by approved methods, until the condition of the soil is acceptable to the ENGINEER. Any objectionable undulations or irregularities in the surface resulting from tillage or other operations shall be removed before planting operations are begun. The work shall be performed only during periods when satisfactory results are likely to be obtained. When conditions are such, by reason of drought, excessive moisture or other factors, that results are not likely to be satisfactory, the ENGINEER will stop the work and it shall be resumed only when, in his opinion, the desired results are likely to be obtained.

3.2. LIMESTONE, FERTILIZER AND SEED

3.2.1. General

Seasonal limitations for seeding operations, the kinds and grades of fertilizers, the kinds of seed, and the rates of application of limestone, fertilizer, and seed shall be as shown in the seeding schedule.

3.2.2. Equipment to be used for the application, covering, or compaction of limestone, fertilizer, and seed shall have been approved by the ENGINEER before being used on the project. Approval may be revoked at any time if equipment is not maintained in satisfactory working condition, or if the equipment operation damages the seed.

3.2.3. Limestone, fertilizer, and seed shall be applied within 24 hours after completion of seedbed preparation unless otherwise permitted by the ENGINEER, but no limestone or fertilizer shall be distributed and no seed shall be sown when the ENGINEER determines that weather and soil conditions are unfavorable for such operations.

3.2.4. During the application of fertilizer, adequate precautions shall be taken to prevent damage to structures or any other appurtenances. The CONTRACTOR shall either provide adequate covering or change methods of application as required to avoid such damage. When such damage occurs, the CONTRACTOR shall repair it, including any cleaning that may be necessary.

3.3. LIMESTONE AND FERTILIZER

Limestone may be applied as a part of the seedbed preparation, provided it is immediately worked into the soil. If not so applied, limestone and fertilizer shall be distributed uniformly over the prepared seedbed at a specified rate of application and then harrowed, raked, or otherwise thoroughly worked or mixed into the seedbed.

3.3.1. If liquid fertilizer is used, storage containers for the liquid fertilizer shall be located on the project and shall be equipped for agitation of the liquid prior to its use. The storage

containers shall be equipped with approved measuring or metering devices which will enable the ENGINEER to record at any time the amount of liquid that has been removed from the container. Application equipment for liquid fertilizer, other than a hydraulic seeder, shall be calibrated to insure that the required rate of fertilizer is applied uniformly.

3.4. SEEDING

Seed shall be distributed uniformly over the seedbed at the rate indicated in the seeding schedule, and immediately harrowed, dragged, raked, or otherwise worked so as to cover the seed with a layer of soil. The depth of covering shall be as directed by the ENGINEER. If two kinds of seed are to be used which require different depths of covering, they shall be sown separately.

3.4.1. When a combination seed and fertilizer drill is used, fertilizer may be drilled in with the seed after limestone has been applied and worked into the soil. If two kinds of seed are being used which require different depths of covering, the seed requiring the lighter covering may be sown broadcast or with a special attachment to the drill, or drilled lightly following the initial drilling operation.

3.4.2. When a hydraulic seeder is used for application of seed and fertilizer, the seed shall not remain in water containing fertilizer for more than 30 minutes prior to application unless otherwise permitted by the ENGINEER.

3.4.3. Immediately after seed has been properly covered, the seedbed shall be compacted in the manner and degree approved by the ENGINEER.

3.5. MODIFICATIONS

When adverse seeding conditions are encountered due to steepness of slope, height of slope, or soil conditions, the ENGINEER may direct or permit that modifications be made in the above requirements which pertain to incorporating limestone into the seedbed; covering limestone, seed, and fertilizer; and compaction of the seedbed.

3.5.1. Such modifications may include but not be limited to the following.

3.5.1.1. The incorporation of limestone into the seedbed may be omitted on (a) cut slopes steeper than 2:1 (b) on 2:1 cut slopes when a seedbed has been prepared during the excavation of the cut and is still in an acceptable condition; or (c) on areas of slopes where the surface of the area is too rocky to permit the incorporation of the limestone.

3.5.1.2. The rates of application of limestone, fertilizer, and seed on slopes 2:1 or steeper or on rocky surfaces may be reduced or eliminated.

3.5.1.3. Compaction after seeding may be reduced or eliminated on slopes 2:1 or steeper, on rocky surfaces, or on other areas where soil conditions would make compaction undesirable.

3.6. MULCH

3.6.1. General

All seeded areas shall be mulched unless otherwise indicated on the plans or directed by the ENGINEER. Application rate of mulch shall be indicated in seeding schedule.

3.6.2. Mulching

Mulch shall be applied within 36 hours after the completion of seeding unless otherwise permitted by the ENGINEER. Care shall be exercised to prevent displacement of soil or seed or other damage to the seeded area during the mulching operations.

3.6.3. Mulch shall be uniformly spread by hand or by approved mechanical spreaders or blowers that will provide an acceptable application. An acceptable application will be that which will allow some sunlight to penetrate and air to circulate but also partially shade the ground, reduce erosion, and conserve soil moisture.

3.6.4. Mulch Binding

Mulch shall be held in place using devices approved by the ENGINEER as per manufacturers recommendations. During application, the CONTRACTOR shall take adequate precautions to prevent damage to structures or appurtenances.

3.7. MAINTENANCE

3.7.1. General

The CONTRACTOR shall be responsible for the proper care and maintenance of the seeded areas until the work under the entire contract has been completed and accepted by the ENGINEER. Maintenance shall consist of repair and replacement of eroded areas, watering, refertilizing, reliming, reseeding, and remulching as necessary to provide an even, fixed growth of grass. In addition, the CONTRACTOR shall provide protection against traffic and shall erect the necessary barricades and warning signs immediately after planting is completed.

3.7.2. Mowing

The seeded areas shall be mowed with approved mowing equipment as per seeding schedule. If weeds or other undesirable vegetation threaten to smother the planted species, such vegetation shall be removed at no cost to the OWNER.

3.8 INSPECTION AND TESTING

3.8.1 Fertilizer and Lime

The ENGINEER shall be furnished with duplicate copies of invoices for all fertilizer and lime used on the project. Invoices for fertilizer shall show the grade furnished. Invoices for lime shall show total minimum carbonates and minimum percentages of the material furnished that pass 100-mesh and 20-mesh sieve. Upon completion of the project, a final check of the total quantities of fertilizer and lime used will be made against the total area topsoiled and seeded, and if the minimum rates of application have not been met, the ENGINEER may require the distribution of additional quantities of these materials to make up the minimum application specified at no additional cost to the OWNER.

3.8.2 Seed

The ENGINEER shall be furnished duplicate signed copies of a statement from the Vendor, certifying that each container of seed delivered is fully labeled and in full accordance with the specifications in this section and the seeding schedule.

(End of Section 02933)

PART ONE – GENERAL:**1.1 RELATED DOCUMENTS**

Provide all labor, materials, equipment and services indicated on the drawings, or specified herein, or reasonably necessary for, or incidental to a complete job.

PART TWO – PRODUCTS: (This section not applicable.)**PART THREE – EXECUTION:****3.1 CLEAN UP**

3.1.1 During the progress of the work, keep the site and affected adjacent areas in a neat and clean condition at all times. Remove all trash, rubbish, surplus materials, and un-needed construction equipment from the site. Repair all damages so that the public and property OWNERS will be inconvenienced as little as possible.

3.1.2 Where materials or debris has washed or flowed into, or has been placed in, existing water-courses, ditches, gutters, drains, pipes, and/or structures by work performed under this contract, or elsewhere during the course of the CONTRACTOR's operations, remove and satisfactorily dispose of such material or debris during the progress of the work. Upon completion of the work, leave all ditches, channels, drains, pipes, and/or structures and work, etc., in a clean and neat condition.

3.1.3 On or before completion of the work, unless otherwise directed or permitted in writing, tear down all temporary buildings and structures built by the CONTRACTOR for his own use. Remove all temporary works, tools, and machinery or other construction equipment furnished by the CONTRACTOR. Remove all rubbish from any grounds which have been occupied by the CONTRACTOR; leave all roads and all parts of the premises and adjacent property affected by the CONTRACTOR's operations in a neat and satisfactory condition.

3.1.4 Remove, acceptably disinfect and cover all organic matter and materials containing organic matter in, under, and around all privies, houses, and other buildings used.

3.1.5 Restore or replace, when and as directed, any public or private property damaged by CONTRACTOR's work, equipment or employees to a condition at least equal to that existing immediately prior to the beginning of the operations. Perform, as required, all necessary highway or driveway reshaping of shoulders and ditches, walks and landscaping work. Use suitable materials, equipment and methods for such restoration. The CONTRACTOR shall be responsible for obtaining releases from the various property OWNERS, stating that all restoration work is satisfactory.

(End of Section 02995)

INTENTIONALLY BLANK

PART 1 - GENERAL:**1.1 - DESCRIPTION**

1.1.1 Form cast-in-place concrete indicated on drawings and subsequently remove such forms except earth forms.

1.1.2 Related Work Described Elsewhere

1.1.2.1 Cast-In-Place Concrete, Section 03300

1.2 – QUALITY ASSURANCE

1.2.1 Qualifications of Workmen

Provide superintendent or foreman who will be present during this portion of work, who shall be thoroughly familiar with materials being installed, referenced standards and requirements of this work, and who shall direct work performed under this section.

1.2.2 Codes and Standards

1.2.2.1 In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in publication ACI 347 of the American Concrete Institute, "Recommended Practice for Concrete Formwork".

1.2.2.2 Where provisions of pertinent codes and standards conflict with this specification, the more stringent provisions shall govern.

1.3 - SUBMITTALS

1.3.1 Manufacturer's Data

Submit two (2) copies manufacturer's data and installation instructions for proprietary materials, including form coatings, manufactured form systems, ties and accessories to the OWNER for approval.

1.4 – PRODUCT HANDLING

1.4.1 Protection

Use means necessary to protect formwork materials before, during and after installation and to protect installed work and materials of other trades.

1.4.2 Replacements

In the event of damage, immediately make repairs and replacements necessary at no additional cost to the OWNER.

PART 2 - PRODUCTS:

2.1 - MATERIALS

2.1.2 Forms for Smooth Finished Exposed Concrete Plywood, metal, metal-framed plywood faced, or other acceptable panel type materials providing continuous, straight surfaces.

2.1.2.1 Plywood shall comply with U.S. Product Standard PS-1, "B-B High Density Overlaid Concrete Form", Class I.

2.1.2.2 Furnish in largest practicable sizes to minimize joints.

2.1.2.3 Furnish in thickness sufficient to withstand pressure of newly placed concrete without bow Or deflection.

2.1.3 Forms for Other Unexposed Concrete

Plywood, lumber, metal or other material acceptable to the OWNER; lumber shall be dressed on at least two (2) edges and one (1) side for tight fit.

2.2 – ACCESSORIES

2.2.1 Form Ties

2.2.1.1 Factory fabricated, adjustable length, removable or snap off metal ties, designed to prevent deflection and to prevent spilling upon removal.

2.2.1.2 Do not use form ties fabricated on job site or wire ties.

2.2.2 Form Coatings

Commercially formulated compounds that will not bond with, stain or adversely affect concrete surfaces, and will not impede wetting of surfaces to be cured with water or curing compounds.

2.3 - FORMWORK DESIGN

2.3.1 Safety

Design, erect, support, brace and maintain formwork to safely support vertical and lateral loads until such loads can be supported by structure.

2.3.1.1 Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation and position.

- 2.3.2 Removable
Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete or adjacent materials.
- 2.3.3 Tighten
Tighten formwork to prevent leakage of wet concrete. Solidly butt joints and provide backup material at joints to prevent leakage and fins.
- 2.3.4 Side Forms
Side forms of footings may be omitted and concrete placed directly against excavation.

PART 3 - EXECUTION:

3.1 – SURFACE CONDITIONS

- 3.1.1 Inspection
 - 3.1.1.1 Before work of this section, inspect installed work of other trades and verify that such work is complete to the point where this installation may properly begin.
 - 3.1.1.2 Verify that forms may be constructed in accordance with pertinent codes and regulations, referenced standards and original design.
- 3.1.2 Discrepancies
 - 3.1.2.1 In the event of discrepancy, immediately notify the OWNER.
 - 3.1.2.2 Do not proceed with installation in areas of discrepancy until such discrepancies have been fully resolved.

3.2 - FORM CONSTRUCTION

- 3.2.1 General
 - 3.2.1.1 Construct to dimensions shown, level, plumb and alignment.
 - 3.2.1.2 Fabricate for easy removal without hammering or prying against concrete surfaces.
 - 3.2.1.3 Examine drawings and specifications and consult with other trades relative to provision for openings.
 - 3.2.1.4 Set required time to be embedded in concrete.
 - 3.2.1.5 Keep form sufficiently wetted to prevent joints opening before concrete placement.

3.2.1.6 Brace and tie forms so as to maintain position and shape. Space forms apart and securely tie together, using metal spreader ties that give positive tying and accurate spreading.

3.2.1.7 Exercise care in form layout to avoid necessity for cutting in-place concrete.

3.2.2 Footing Forms

Footing side forms may be of earth, provided soil will stand without caving and sides are made with neat cuts to minimum dimensions shown on drawings. Make necessary provisions to prevent cave-ins during concrete placement.

3.2.3 Forms for Exposed Construction

Provide sharp, clean corners at intersecting planes, without visible edges or offsets.

3.2.4 Form Coatings

Coat form surfaces before reinforcement is placed. Do not allow excess coating material to accumulate in forms or to come into contact with surfaces to be bonded to fresh concrete.

3.3 – FORM REMOVAL

3.3.1 General

Do not remove forms until concrete is twenty-four (24) hours old.

3.3.2 Non-Supporting Formwork

3.3.2.1 Formwork not supporting concrete, such as walls and similar parts of the work, may be Removed after cumulatively curing at not less than fifty degrees fahrenheit (50 F) for twenty-four (24) hours after concrete placement, provided that:

3.3.2.1.1 Concrete is sufficiently hard to not be damaged by removal.

3.3.2.1.2 Curing and protection operations are maintained.

3.4 – FORM RE-USE

3.4.1 Form re-use shall be subject to advance approval by the OWNER.

3.4.2 Unless specifically approved in advance by the OWNER, form re-use shall in no way delay
or
change schedule for concrete placement from schedule obtainable if all forms were new.

(End of Section 03100)

PART ONE – GENERAL:**1.1 Description****1.1.1 Work Included**

Concrete reinforcement and associated items required for this work as shown on the drawings.

1.1.2 Related Work Described Elsewhere**1.1.2.1. Placement of other embedded items**

Concrete Formwork, Section 03100
Cast-In-Place Concrete, Section 03300

1.2 – Quality Assurance**1.2.1 Qualifications of Workmen**

Provide the superintendent or foreman who will be present during this portion of the work, who shall be thoroughly familiar with materials being installed and the best methods for installation and who shall direct work performed under this section.

1.2.2 Codes and Standards

1.2.2.1 In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in publication ACI 315 of the American Concrete Institute, “Manual of Standard Practice for Detailing Reinforcing Concrete Structures”, ACI 318 (latest edition) “Building Code Requirements for Reinforced Concrete”, and the South Carolina Department of Transportation Standard Specifications for Highway Construction, latest edition.

1.2.2.2 Where provisions of pertinent codes and standards conflict with this specification, the more stringent provisions shall govern.

1.3 – Submittals**1.3.1 Shop Drawings**

1.3.1.1 Submit shop drawings to the OWNER for review.

1.3.1.2 Do not deliver concrete reinforcement to job site until receipt of reviewed shop drawings from the OWNER.

1.4 – Product Handling

1.4.1 Protection

1.4.1.1 Use means necessary to protect concrete reinforcement before, during, and after installation and to protect installed work and materials of other trades.

1.4.1.2 Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond breaking coatings.

1.4.1.3 Use necessary precautions to maintain identification after bundles are broken.

1.4.2 Replacements

In the event of damage, immediately make repairs and replacements necessary, at no additional cost to the OWNER.

PART TWO – PRODUCTS:

2.1 – Concrete Reinforcement

Concrete reinforcement materials shall be new, free from loose rust and scale and complying with the following referenced standards:

2.1.1 Reinforcement Bars

Reinforcement Bars shall conform to AASHTO M31 Type W, per SCDOT Specifications, latest edition.

2.1.2 Welded Wire Fabric

Welded wire fabric shall conform to AASHTO M336, per SCDOT Specifications, latest edition.

2.2 – Other Materials

Other materials not specifically described, but required for complete and proper installation of concrete reinforcement, shall be selected by the CONTRACTOR and subject to approval by the OWNER.

PART THREE – EXECUTION:

3.1 – Surface Conditions

3.1.1 Inspection

3.1.1.1 Before installation of work of this section, inspect installed work of other trades and verify that such work is complete to the point where this installation may properly begin.

3.1.1.2 Verify that concrete reinforcement may be installed in strict accordance with pertinent codes and regulations, shop drawings and original design.

3.1.2 Discrepancies

3.1.2.1 In the event of discrepancy, immediately notify the OWNER.

3.1.2.2 Do not start installation until discrepancies and unsatisfactory conditions are corrected.

3.2 – Bending

3.2.1 General

3.2.1.1 Fabricate reinforcement in accordance with shop drawing.

3.2.1.2 Do not use bars with kinks or bends not shown on drawing or shop drawing.

3.2.1.3 Do not bend or straighten steel in a manner that will damage material.

3.2.2 Design

3.2.2.1 Bend all bars cold unless approved by the OWNER.

3.2.2.2 Make bends for ties around pins having diameter not less than two (2) times minimum bar thickness.

3.2.2.3 Make bends for other bars, including hooks, around pins having diameter not less than six (6) times minimum bar thickness.

3.3 – PLACEMENT

3.3.1 General

Before start of concrete placement, accurately place concrete reinforcement, positively securing and supporting by metal chairs or spacers, or by metal hangers.

3.3.2 Inspection

Prior to placement of concrete, the OWNER shall be notified in ample time to inspect placement of reinforcement. Inspection of reinforcement will be made only after the placement of each section to be poured. The OWNER shall always be notified of pouring schedule well in advance.

3.3.3 Clearance

3.3.3.1 Preserve clear space between bars of not less than the normal diameter of round bars.

3.3.3.2 In no case allow clear distance of less than three-quarter inch (3/4") or less than one and one-third (1-1/3) times maximum aggregate size.

3.3.3.3 Minimum clearance for reinforcing shall be two and one-half inches (2-1/2") when in contact with the ground, two inches (2") in concrete walls and three-quarters inch (3/4") in concrete not exposed to weather or in contact with the ground.

3.3.4 Dowels

Place required steel dowels securely anchored into position before concrete is placed.

3.3.5 Obstructions

In the event conduits, piping, inserts, sleeves or other items interfere with placing reinforcement as indicated on drawings or as otherwise required, immediately consult the OWNER and obtain approval of new procedures before placing concrete.

3.3.6 Splicing

3.3.6.1 Splices shall conform to ACI 238, Chapter 12. Splices shall be Class C unless otherwise indicated.

3.3.6.2 Welded wire fabric shall lap one (1) full mesh and shall be securely wired at each end and side.

3.4 – Cleaning Reinforcement

Concrete reinforcement, at the time concrete is placed, shall be free from rust scale, loose mill scale, oil paint and other coatings which will destroy or reduce bond between steel and concrete.

(End of Section 03200)

PART 1 DESCRIPTION:

- 1.1. The work covered by this section consists of all cast-in-place concrete work and related items as shown on the plans and as specified herein.
- 1.2. The CONTRACTOR shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.

1.3 RELATED WORK AND REFERENCES

- 1.3.1 Related Specifications: General Conditions, Special Conditions, and Sections in Division 1 of these Specifications as well as Division 2 affecting work in this Section.
- 1.3.2 References: Any reference to standard National or State Specifications and/or Regulations refers to the most current published date of the specifications and/or regulations listed in Section 01016 of these specifications unless noted otherwise.

The design, manufacture, and installation of these materials shall meet or exceed the applicable provisions and recommendations of the noted National Specifications and/or Regulations or meet the requirements of the latest revision of these specifications or regulations.

Nation Codes affecting work in this Section of the Specifications:

- ACI Codes as stated in Part 2 and 3 of this Section
- ASTM Codes as stated in Part 2 and 3 of this Section
- U. S Army Corps of ENGINEERs Standard Specifications as stated in Part 2 and 3 of this Section
- National Ready Mixed Concrete Association's Plant Certification Check List

1.4 QUALITY ASSURANCE

- 1.4.1 Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- 1.4.2 A testing laboratory will be retained by the OWNER to perform material evaluation tests as required by these Specifications.
- 1.4.3 The CONTRACTORs performing the concrete work shall have a minimum of two (2) years experience on comparable concrete projects.

- 1.4.4 The concrete supplier's plant equipment and facilities shall meet all requirements of the "Check List for Certification of Ready Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association and ASTM C94.

1.5 SUBMITTALS

- 1.5.1 Comply with the pertinent provisions for submittal of Shop Drawings, Product Data and Samples.
- 1.5.2 Within 21 days after receiving the OWNER's Notice to Proceed, submit proposed concrete mix designs for approval. Submit two copies of each laboratory trial mix design proposed in accordance with ACI 301, Method 1, which is based on trial batches and requires an average strength 1200 psi greater than the specified strength; or ACI 301, Method 2, which is based on at least 30 consecutive strength tests of a similar mix obtained within the past year. The cost of this work is to be borne by the CONTRACTOR.
- 1.5.3 Submit manufacturer's specification with application instructions for proprietary materials and items, including curing compounds, form release agents, admixtures, patching compounds and others as required by the ENGINEER.
- 1.5.4 Submit reinforcing steel shop drawings and manufacturer's data for approval to the ENGINEER before work is started.
- 1.5.4.1 Metal Reinforcement: Shop drawings shall show complete information for placing reinforcement, including type or shape of each bar, dimensions to ends of bars, amount of concrete (clear) cover, spacing of bars, number of bars at each location and other pertinent dimensions. All wall reinforcing steel shall be detailed and shown in elevations of the walls. Shop Drawings of the following items shall be submitted to the ENGINEER for review prior to fabrication or delivery to the job site.
- 1.5.5 Concrete Tests: Two copies of all concrete test results shall be submitted to the ENGINEER. Each test report shall indicate the specific structure where the concrete was placed.
- 1.5.6 Other: For each batch (truckload) of concrete, the concrete supplier shall provide a delivery ticket in accordance with ASTM C94. The ticket shall also indicate the time the concrete is placed. One copy of each delivery ticket shall be furnished to the ENGINEER or his representative. CONTRACTOR shall keep another copy of each delivery ticket at the job site until final acceptance.

PART 2 MATERIALS:

2.1. GENERAL

- 2.1.1. Class of Concrete: Concrete shall be Class 3000 minimum (structural concrete shall be 4000 minimum), as hereinafter specified, except where specifically noted otherwise in the plans and specifications.
- 2.1.2. References: Materials and work shall conform to the requirements of all specifications, standards, codes and recommended practices referenced herein. References to specifications, standards, codes, etc., shall mean the latest edition or revision in effect at the time of bid opening, unless otherwise specified. In conflicts between referenced standards and this specification, or this specification and the local building code, the more stringent requirements shall govern.
- 2.1.3. Publications: CONTRACTOR shall keep the following publications on file at the site at all times during construction.
- | | |
|-----------|--|
| ACI SP 15 | Field Reference Manual; Specification for structural concrete for buildings with selected ACI and ASTM references. |
| ACI SP 66 | ACI Detailing Manual |
| ACI 311 | Recommended Practice for Concrete Inspection |
| ACI 318 | Building Code Requirements for Reinforced Concrete |
| ACI 350R | Concrete Sanitary ENGINEERING Structures |
- 2.1.4. General Specifications: Concrete work shall conform to all requirements of ACI 301, "Specifications for Structural Concrete for Buildings," except as modified by these contract documents.

2.2. TESTING AND INSPECTION

Materials and operations shall be tested and inspected as work progresses. Failure to detect defective work will not prevent rejection when the defect is discovered, nor shall it obligate the ENGINEER for final acceptance. Testing agencies will be selected by the OWNER and approved by the ENGINEER, and shall meet the requirements of ASTM E329.

- 2.2.1. Concrete Testing: OWNER shall have a qualified technician from an independent laboratory take samples, prepare specimens and perform on-site testing, at the CONTRACTOR's expense. Technician shall be on site prior to starting the pour and shall remain on site until the pour is completed. He shall immediately notify the CONTRACTOR and ENGINEER of any concrete that does not meet the specifications. For very small pours, the ENGINEER may waive the requirements for an independent testing laboratory and for the tests specified in paragraphs 2.2.1.3 and 2.2.1.5 below. CONTRACTOR shall request this waiver in writing at least seven days before the pour. These requirements will normally be waived only for concrete that is not in a liquid-retaining structure nor exposed to the weather. CONTRACTOR shall also pay the cost of qualification of proposed materials, establishment of mix designs in accordance with ACI 301, shipment of specimens to the testing laboratory, laboratory testing and reports, and

additional testing required if initial tests indicate that the material may be substandard (even if the additional test reveals that the material is satisfactory). The following tests shall be the minimum required.

- 2.2.1.1. Samples from which test specimens are made shall be secured in accordance with ASTM C172 requirements for composite samples. Specimens shall be molded and cured in accordance with ASTM C31. Specimens shall be tested in accordance with ASTM C39. Four strength specimens shall be taken for each 50 cu. yd., or fraction thereof, of each mix design of concrete placed in any one day; one tested at 7 days, two tested at 28 days and one to be retained as a spare.
- 2.2.1.2. Slump test shall be made in accordance with ASTM C143. One test shall be made from each sample taken for a strength test specimen, or whenever the consistency of concrete appears to vary. If the slump in any test is outside the design range, at least one strength specimen shall be taken from that sample.
- 2.2.1.3. Entrained air content shall be determined in accordance with ASTM C231 or ASTM C173, as applicable. One test shall be made from each sample taken for a strength test specimen.
- 2.2.1.4. Temperature of each sample taken for a strength test specimen shall be determined.
- 2.2.1.5. Unit weight, yield and air content (gravimetric) of concrete shall be determined in accordance with ASTM C138.

2.3. EVALUATION AND ACCEPTANCE

- 2.3.1. Field Conditions: Concrete materials and operations shall be tested and inspected prior to concrete being placed. Whenever a concrete truckload is rejected for any reason, the truck will not be allowed on the site for at least three hours. The contents of rejected truckloads shall remain the property of the concrete supplier and shall be disposed of properly off the site.
- 2.3.2. Failure to meet the maximum time limits as specified in ASTM C94 for mixing and placing of concrete, or if concrete has attained its initial set before placing, will result in rejection of each individual truckload. No tests shall be performed and the delivery ticket shall remain at the site with the reason for rejection written thereon.
- 2.3.3. Failure to meet the requirements of the tests specified herein will result in rejection of each individual truckload.
- 2.3.4. Laboratory Testing: Evaluation and acceptance based on laboratory testing shall be in accordance with ACI 318, except that the ENGINEER will be the referenced "building official".

2.4. SUBMITTALS

CONTRACTOR shall make the following submittals to the ENGINEER.

- 2.4.1. Mix Designs: Submit two copies of each laboratory trial mix design proposed in accordance with ACI 301, Method 1, which is based on trial batches and requires an average strength 1200 psi greater than the specified strength; or ACI 301, Method 2, which is based on at least 30 consecutive strength tests of a similar mix obtained within the past year.
- 2.4.2. Shop Drawings of the following items shall be submitted to the ENGINEER for review prior to fabrication or delivery to the job site.
 - 2.4.2.1. Metal Reinforcement: Shop drawings shall show complete information for placing reinforcement, including type or shape of each bar, dimensions to ends of bars, amount of concrete (clear) cover, spacing of bars, number of bars at each location and other pertinent dimensions. All wall reinforcing steel shall be detailed and shown in elevations of the walls.
 - 2.4.2.2. Other Materials and Products: Catalog cuts and other descriptive data shall be submitted for all manufactured materials and products to be used in the work.
- 2.4.3. Concrete Tests: Two copies of all concrete test results shall be submitted to the ENGINEER. Each test report shall indicate the specific structure where the concrete was placed.
- 2.4.4. Other: For each batch (truckload) of concrete, the concrete supplier shall provide a delivery ticket in accordance with ASTM C94. The ticket shall also indicate the time the concrete is placed. One copy of each delivery ticket shall be furnished to the ENGINEER or his representative. CONTRACTOR shall keep another copy of each delivery ticket at the job site until final acceptance.

2.5. MATERIALS AND PRODUCTS

- 2.5.1. Cement: ASTM C150, Type I or II. Air-entraining cement shall not be used. Cement used in the work shall correspond to that upon which the selection of concrete proportions was based. Only one brand and manufacture of approved cement shall be used for exposed concrete.
 - 2.5.1.1. Type II Portland-Limestone cement meeting SCDOT requirements, conforming to ASTM C 595 Blend Hydraulic Cement. Limestone content must be 15% or less of the total weight of the Portland-Limestone cement mix.
 - 2.5.1.2 Type III cement shall be used where specifically noted on the plans or when prior written approval has been obtained by the CONTRACTOR from the ENGINEER.

- 2.5.2. Aggregates: ASTM C33. Local aggregates not complying with ASTM C33 may be used provided it can be shown by special test or a record of past performance that these aggregates produce concrete of adequate strength and durability.
 - 2.5.2.1. Fine Aggregate shall be clean, sharp, natural sand.
 - 2.5.2.2. Coarse Aggregate shall be Size No. 57, 67 or 467.
- 2.5.3. Water shall be fresh, clean and potable.
- 2.5.4. Admixtures: When requested, a qualified concrete technician employed by the admixture manufacturer shall be available to assist in proportioning concrete materials for optimum use, and to advise on proper use of the admixture and adjustment of concrete mix proportions to meet job-site and climatic conditions.
 - 2.5.4.1. Water Reducing Admixture: "Eucon WR-75" by Euclid Chemical Co., "Pozzolith 122N" by Master Builders, "Plastocrete" by Sika Chemical Corp., or equal. Admixture shall conform to ASTM C494, Type A, and shall not contain more than 1% chloride ions.
 - 2.5.4.2. High Range Water Reducing (HRWR) Admixture (Superplasticizer): "Eucon 37" by Euclid Chemical Co., "Sikament" by Sika Chemical Corp., "Melment" by American Admixtures Co., or equal. Admixture shall conform to ASTM C494, Type F or G, and shall not contain more than 1% chloride ions.
 - 2.5.4.3. Non-Corrosive Accelerator: "Accelguard 80" by Euclid Chemical Co., "Daraset" by W. R. Grace, or equal. Admixture shall conform to ASTM C494, Type C or E, and shall not contain more than 1% chloride ions.
 - 2.5.4.4. Air-Entraining Admixture: ASTM C260
 - 2.5.4.5. Retarding Admixture: "Eucon Retarder 75" by Euclid Chemical Co., "Pozzolith 300R" by Master Builders, or equal. Admixture shall conform to ASTM C494, Type B or D, and shall not contain more than 1% chloride ions.
 - 2.5.4.6. Fly Ash: ASTM C618. Quantity of fly ash shall be less than 25% of the combined weight of cement and fly ash.

2.6. CURING MATERIALS

- 2.6.1. Waterproof Sheet Material: ASTM C171.
- 2.6.2. Curing Compounds: "Super Pliocure" by Euclid, "Super Floor Coat" by Euclid, or "Masture Kure-CRC" by Master Builders or equal. Product shall be a curing, sealing and

hardening product with approximately 30% solids and shall meet the requirements of ASTM C-309.

2.7. WATERSTOPS shall be steel plate, 1/8 x 6-inch; except where non-metallic waterstops are specified or noted on the plans.

2.7.1 Waterstops at submerged expansion joints shall be the dumbbell or center bulb type, and shall be of rubber, PVC, styrenebutadiene or neoprene. Unless otherwise noted, dumbbell type shall be 3/8 x 6-inch with 3/4-inch end bulbs and center bulb type shall be 1/4 x 6-inch with 5/8-inch end bulbs and 1-1/8 inch center bulb.

2.8. NON-SHRINK GROUT

Non-metallic conforming to "Corps of ENGINEERs Specification for Non-Shrink Grout" CRD-C-621, Type D; "Euco N-S" by Euclid Chemical Co., "Masterflow 713" by Master Builders, Crystex" by L & M Construction Chemicals, or equal.

2.9. BONDING COMPOUND

2.9.1. Not Exposed to Water after Placement: Polyvinyl acetate, rewettable type; "Euco Weld" by Euclid Chemical Co., "Weldcrete" by Larsen, "Everbond" by L & M Construction Chemicals, or equal.

2.9.2. Exposed to Water after Placement: "SBR Latex" or "Flex-Con" by Euclid Chemical Co., "Sikatom" polymer when used with "Sikatom" by Sika Chemical Corp., "Everbond" by L & M Construction Chemicals, or equal. Epoxy adhesives may also be used.

2.10. METAL REINFORCEMENT shall be reinforcing steel or welded wire fabric, as shown on the plans. If requested, manufacturer's certificates showing conformance with the specifications shall be furnished to the ENGINEER.

2.10.1. Reinforcing Steel shall be deformed steel bars conforming to ASTM A615, Grade 60 unless otherwise noted.

2.10.2. Welded Wire Fabric: ASTM A185.

2.11. JOINT FILLERS shall be preformed bituminous self-sealing type conforming to ASTM D994, unless otherwise noted.

2.12 FORMWORK

2.12.1. Forms for Exposed Concrete shall be of plywood, and shall provide continuous, straight, smooth surfaces. Plywood shall be B-B Plyform, Class I Exterior, 5/8-inch thick minimum. Metal and other types of forms shall be used only upon approval of the ENGINEER. Symons forms with plywood, or equivalent, shall be acceptable.

- 2.12.2. Forms for Unexposed Concrete may be of undressed square-edge tongue-and-groove lumber, or of plywood.
- 2.12.3. Form Oil shall be a light colored, non-staining form coating compound. Form oil for steel forms shall be rust-preventive type.
- 2.12.4. Form Ties shall be factory fabricated, adjustable length type designed to prevent from deflection and spalling of concrete surfaces upon removal. Ties shall be of the type to have metal not less than 1 inch from exposed concrete surfaces. Wire ties will not be permitted where wire is embedded in finished concrete. Form ties fabricated at the job site will not be acceptable. Ties in liquid-retaining structures shall have a waterstop in the middle of the tie.
- 2.12.5. Vertical sides of excavations may be used for placing concrete in lieu of forms, provided that the sides are clean cut and remain stable while the concrete work is being accomplished.

2.13. MATERIAL STORAGE: Storage of materials shall be subject to approval of the ENGINEER and shall be such that damage from water, freezing and other sources is prevented. No damaged or deteriorated material shall be used for concrete.

- 2.13.1. Cement shall be stored in enclosed shelters to prevent damage from moisture. Supporting floors shall be at least 1 foot above ground or otherwise suitably protected against moisture penetration.
- 2.13.2. Aggregates shall be stored in separate piles, and in such manner as to prevent inclusion of dirt and other foreign materials.
- 2.13.3. Admixtures: Dry admixtures shall be stored as specified for cement. Liquid admixtures shall be protected from freezing and from settling out of solution.
- 2.13.4. Metal Reinforcement shall be stored off the ground, protected from the weather, and so that it can be easily identified.
- 2.13.5. Other Materials shall be suitably stored to prevent damage or misuse.

2.14. SELECTION OF PROPORTIONS

Concrete shall be composed of cement, fine and coarse aggregate, water and the required admixtures. Proportions of ingredients shall produce concrete of the proper consistency that works readily into corners and angles of forms and around reinforcement without excessive segregation or bleed water forming on the surface; concrete that provides resistance to freezing, thawing and other aggressive actions; and concrete that meets the strength and other requirements specified herein. Proportioning of materials shall be in accordance with ACI 211.1, ACI 318 and ACI 301 (Method 1 or Method 2).

2.15. CONCRETE QUALITY

Concrete work shall conform to all requirements of ACI 301, except where specifically modified by the plans and specifications for this project. Concrete shall be composed so as to obtain the following compressive strengths at 28 days.

Class 5000	5000 psi
Class 4000	4000 psi
Class 3500	3500 psi
Class 3000	3000 psi
Class 2500	2500 psi
Class 2000	2000 psi

Note: Water-cement ration requirements may be more restrictive than the strength requirements.

- 2.15.1. Minimum Cement Content for Class 3000 Concrete shall be 517 lb./cu. yd. for coarse aggregate size No. 467, and 564 lb./cu. yd. for coarse aggregate size No. 57 or 67.
- 2.15.2. Air-Entrained Concrete: Concrete exposed to the weather or in liquid-retaining structures shall be air-entrained. Total air content required shall be 5-1/2% + 1% for coarse aggregate size No. 467, and 6% + 1% for coarse aggregate size No. 57 or 67. The design mix shall be based on the midpoint of the applicable range, and the field delivered concrete shall be within that range.
- 2.15.3. Air content shall be measured in accordance with ASTM C173, or ASTM C231.
- 2.15.4. Slump shall be determined in accordance with ASTM C143.
- 2.15.5. Maximum slump for walls shall be 3 inches prior to addition of the HRWR admixture. Admixture shall be added in sufficient quantities to provide a minimum slump of 5 inches prior to placement of concrete.
- 2.15.6. The maximums specified above may be increased to 8 inches by using the HRWR admixture. However, slump will be checked prior to the addition of the HRWR admixture, and shall meet the restrictions specified above.

2.16. HARDENING OF CONCRETE: Concrete shall be adjusted to produce the required rate of hardening for various climatic and job-site conditions. The rate of hardening shall be as follows:

<u>Ambient Temperature</u>	<u>Admixture (ASTM C494)</u>
Under 50 degrees F	Type E (accelerating)
Over 80 degrees F	Type D (retarding)
50 degrees F to 80 degrees F	Type A (normal rate of hardening)

2.17. ADMIXTURES

All other concrete shall contain a water reducing admixture. All thin slabs, less than 8 inches thick, placed at air temperatures below 50 degrees F, shall contain the specified non-corrosive accelerator. All concrete required to be air-entrained shall contain an approved air-entraining admixture. When increased ultimate and/or early strengths are required, the appropriate admixture shall be used.

2.18. WATER-CEMENT RATIO

Class 3000 concrete or better shall have a maximum water-cement ration of 0.46. When used, fly ash shall be included with the cement to determine the water-cement ratio.

PART 3 INSTALLATION:

3.1. CONSTRUCTION OF FORMS

Forms for concrete shall conform to the shapes, lines and dimensions of the members as shown on the plans, and shall be sufficiently tight to prevent leakage of mortar. Forms shall have sufficient strength to withstand forces from the placement and vibration of concrete and shall be properly braced or tied together to maintain position and shape.

3.1.1. Design: Formwork shall be designed for loads, lateral pressure and allowable stresses in accordance with ACI 347. All tolerances, preparation of form surfaces, removal of forms, reshoring and removal strength shall be in accordance with ACI 301. Design, ENGINEERING and construction of formwork shall be the responsibility of the CONTRACTOR.

3.1.2. Erection of Forms:

3.1.2.1. Forms shall be erected to the sizes, shapes and dimensions shown on the plans, true to line and grade. Forms shall be fabricated to permit easy removal without damage to concrete.

3.1.2.2. All formwork shall be provided with adequate cleanout openings to permit inspection and easy cleaning. Wood chips, sawdust, dirt and other debris shall be removed just before concrete is placed.

3.1.2.3. All exposed corners and edges of forms shall be provided with a 3/4-inch chamfer. Chamfer strips shall be of wood, metal, PVC or rubber.

3.1.2.4. Contact surfaces of forms shall be oiled and allowed to dry before reinforcement is placed. Form oil shall be applied in accordance with the manufacturer's instructions. All excess oil shall be removed.

3.1.2.5. Forms to be re-used in the work shall be thoroughly clean and free of splits, distortion and other damage. Re-used forms shall be oiled as specified for new forms.

3.1.3. Extreme Weather Requirements: During cold weather, forms shall be kept free from frost or ice. In hot weather, forms shall be properly prepared to prevent loss of water prior to placing concrete, and shall be well oiled and sprinkled as necessary to keep them cool.

3.2. CONCRETE REINFORCEMENT

Reinforcement shall be accurately formed to the required lengths, dimensions and shapes as shown on the plans, prior to shipment to the job site. Shop drawings shall be reviewed prior to fabrication. All bars shall be bent cold, unless otherwise directed by the ENGINEER. Bars partially embedded in concrete shall not be field bent, unless otherwise shown on the plans or specifically permitted by the ENGINEER. All requirements for reinforcement not shown on the plans or specified herein shall be in accordance with ACI 315.

3.2.1. Shipping and Handling: Reinforcement shall be delivered to the job site tied in bundles so as to be easily handled, and tagged with non-rusting metal tags showing shop drawing numbers.

3.2.2. Placing: Reinforcement shall be carefully and accurately placed as shown on the plans, and adequately secured in position by concrete, metal or other approved chairs, spacers or ties to prevent displacement during the concreting operation. At the time concrete is placed, reinforcement shall be free from thick rust, mill scale, ice, frost, oil, grease or other coatings that destroy or reduce the bond.

3.2.3. Splices: Unless otherwise noted, splices in reinforcement shall be Class C in accordance with ACI 318. All splices shall be approved by the ENGINEER, and shall be securely tied with wire or cable clamps.

3.2.4. Cutting of reinforcement in the field will not be allowed, unless specifically approved by the ENGINEER.

3.2.5. Concrete Protection: Unless otherwise noted, the minimum cover of concrete over reinforcement shall be in accordance with ACI 318 or shall be as shown on the plans.

3.2.6. Exposed Reinforcing Bars intended for bonding with future work shall be adequately protected against corrosion.

3.2.7. Field Bending of reinforcement is strictly prohibited, except where specifically approved by the ENGINEER on a limited basis for each particular case. When approved, field bending shall be done using cold bends conforming to all applicable codes; heat will not be allowed.

3.3. JOINTS AND EMBEDDED ITEMS shall be provided where shown on the plans or as directed by the ENGINEER.

3.3.1. Joints not shown on the plans shall be made and located to least impair the strength of the structure and shall be approved by the ENGINEER.

3.3.1.1. All reinforcement shall be continued across construction and contraction joints, unless noted otherwise; keys and dowels shall be provided as directed by the ENGINEER.

3.3.1.2. Joint filler shall be placed in all expansion and isolation joints.

3.3.1.3. Contraction joints shall be formed, tooled or sawed approximately equal to 1/4 the thickness of the member.

3.3.1.4. All joints in liquid-retaining structures shall be provided with a waterstop, unless otherwise directed in each instance by the ENGINEER.

3.3.1.5. Dowel length into adjoining concrete shall be considered a minimum of full splice length and shall conform to all requirements for splices as specified above.

3.4. SUBMERGED EXPANSION AND CONTRACTION JOINTS shall be provided as detailed on the plans. All manufactured products shall be applied in accordance with the manufacturer's instructions.

3.4.1. Other Embedded Items: All sleeves, wall pipe, nipples, inserts, anchors, hangers and other embedded items required for adjoining work or for its support shall be placed prior to placing concrete and shall be positioned accurately and supported against displacement.

3.5. MIXING AND PLACING

CONTRACTOR shall provide access for delivery and sufficient equipment and manpower to rapidly place all concrete. All work shall be done in accordance with ACI 304.

3.5.1. Preparation of Equipment and Place of Deposit: Before placement of concrete, equipment used for mixing and transporting concrete shall be thoroughly cleaned. All formwork shall be complete; snow, ice, water and debris shall be removed from within forms. Expansion joints material, anchors and other embedded items shall be properly secured in position. Subgrades shall be sprinkled sufficiently to eliminate water loss from the concrete. Concrete shall not be placed on frozen ground. All laitance and other unsound material shall be removed from hardened concrete before additional concrete is placed.

3.5.2. Ready-Mixed Concrete shall be batched, mixed and transported in accordance with ASTM C94. Plant equipment and facilities shall conform to the "Checklist for Certification of Ready Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association.

- 3.5.3. Job-Mixed Concrete: For job-mixed concrete, mixer shall be rotated at a speed recommended by the manufacturer. If mixer performance tests are not made, each batch of 1 cu. yd. or less shall be mixed for at least 1 minute after all materials are in the mixer. Mixing time shall be increased by 15 seconds for each additional cubic yard or fraction thereof. Entire batch shall be discharged before the mixer is recharged.
- 3.5.4. Conveying: Concrete shall be handled from the mixer to final deposit rapidly by methods that will prevent segregation or loss of ingredients to maintain the required quality of concrete.
- 3.5.5. Depositing: Concrete shall be deposited continuously; when continuous placement is not possible, construction joints shall be located as approved by the ENGINEER. Concrete shall be placed as nearly as possible to its final position to avoid rehandling or flowing. A tremie, pump or chute shall be used where a lift is between 5 and 12 feet. A pump shall be used where a lift is more than 12 feet.
- 3.5.5.1. Concrete shall be consolidated by vibration. Concrete shall be worked around reinforcement, embedded items and into corners to eliminate all air or stone pockets and other causes of honeycombing, pitting or planes of weakness. Internal vibrators shall be used on concrete 6 inches or more in thickness. Form or surface vibration may be used on sidewalks or concrete less than 6 inches thick, instead of internal vibration. Consolidation shall be done in accordance with the recommendations of ACI 309.
- 3.5.5.2. Internal vibrators shall be inserted and withdrawn approximately every 18 inches for 5 to 15 seconds. Vibrators shall have a minimum frequency of 8000 rpm, with amplitude to consolidate effectively. Vibrators shall be operated by competent workmen. Use of vibrators to transport concrete will not be allowed.
- 3.5.5.3. Flat chutes shall not be used. Chutes shall be deep with rounded bottoms and constructed of or lined with metal.
- 3.5.5.4. Concrete shall not be dumped in piles and then spread horizontally. Concrete shall be placed in uniform layers 1 to 1-1/2 feet thick and rodded or vibrated to consolidate the various layers.
- 3.5.5.5. Construction joints shall be limited to those shown on the plans, unless additional construction joints are approved by the ENGINEER. Surface shall be roughened to remove the soft mortar and expose the coarse aggregate. Prior to placing new concrete, hardened concrete shall be cleaned and dampened. On horizontal joints, first layer of new concrete shall be 4 to 5 inches thick and shall be of the same mix as the concrete in the wall, except that the coarse aggregate is omitted.

- 3.5.5.6. Waterstops shall be provided at all construction joints of liquid-retaining structures. Joints of steel waterstops shall be butt welded; joints of non-metallic waterstops shall be made by gluing or vulcanizing.

3.6 COLD WEATHER CONDITIONS

All concrete work during cold weather shall be done in accordance with ACI 306. Calcium chloride will not be permitted as an accelerator.

- 3.6.1. Temperature of concrete delivered at the job site shall conform to the following:

<u>Air Temperature</u>	<u>Concrete Temperature</u>
30 to 45 degrees F	55 to 80 degrees F
0 to 30 degrees F	60 to 80 degrees F
Below 0 degrees F	65 to 80 degrees F

- 3.6.2. Water heated to above 100 degrees F shall be combined with the aggregates before cement is added. Cement shall not be added to water to aggregates having a temperature greater than 100 degrees F.
- 3.6.3. When the outdoor temperature is less than 40 degrees F, the temperature of the concrete shall be maintained at not less than 50 degrees F for the required curing time. Arrangements shall be made before placement to maintain the required temperature without injury from excessive heat. Where combustion heaters are used, precautions shall be taken to prevent exposure of concrete and workmen to exhaust gases containing carbon dioxide and carbon monoxide.

3.7 HOT WEATHER CONDITIONS

All concrete work during hot weather shall be done in accordance with ACI 305.

- 3.7.1. Temperature of concrete delivered at the job site shall not exceed 90 degrees F. Ingredients shall be cooled before mixing to prevent concrete temperature in excess of 90 degrees F.
- 3.7.2. Provisions shall be made for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.
- 3.7.3. Concrete exposed or subject to rapid evaporation due to hot weather, drying winds and sunlight may be protected by a set-retarding admixture, applied in accordance with the manufacturer's recommendations.

3.8. CURING AND PROTECTION

Immediately following placement, concrete shall be protected from premature drying, hot and cold temperatures, rain, flowing water and mechanical injury. Materials and methods of curing shall be approved by the ENGINEER. Final curing shall continue for not less than 7 days.

- 3.8.1. Approved methods of curing include ponding, continuous sprinkling, fog spray, wet burlap or mats, clean sand kept continuously wet, curing compound and waterproof sheet material.
- 3.8.2. If a waterproof sheet material is used for curing, it shall be placed over the wetted surface of fresh concrete as soon as practicable without marring the surface. Each sheet shall be overlapped and firmly secured in place to insure moisture seal.
- 3.8.3. If a curing compound is used, two coats shall be applied at right angles to each other. The product shall meet the requirements for curing compounds in the materials and products section of these specifications. The product shall be applied in accordance with the manufacturer's recommendations.

3.9. REMOVAL OF FORMS

Forms shall be removed in such a manner as to ensure complete safety of the structure and to prevent damage to concrete. Unless specifically approved otherwise by the ENGINEER, form removal shall be as specified below.

- 3.9.1. Wall and Column Forms: Formwork not supporting the weight of the concrete, such as wall and column forms and side forms of beams and girders, shall remain in place a minimum of 12 hours.
 - 3.9.1.1. On vertical surfaces of liquid-retaining structures, forms shall be left in place, or the surface covered with burlap and the concrete kept wet, for at least seven days.
- 3.9.2. Bottom Forms for beams and girders shall not be disturbed for at least six days, and auxiliary supports shall be maintained until the concrete reaches its design strength.
- 3.9.3. Elevated Slab Forms shall not be disturbed for at least seven days, and slabs shall be adequately supported for at least 28 days. Auxiliary slab supports, acceptable to the ENGINEER, may be provided to support slabs at the center of the clear span.

3.10. CONCRETE FINISHES: All exposed concrete surfaces shall be true to the required lines and contours and shall be free from stone pockets or honeycomb.

- 3.10.1. Patching and Repair: All imperfect or honeycomb spots and tie holes shall be chipped out to firm concrete and patched with cement grout immediately after form removal and before concrete is thoroughly dry. Fins shall be removed and repaired as necessary. Patching and repair shall be done so that the patched and repaired areas appear as a homogeneous part of the main concrete.
 - 3.10.1.1. Edges of honeycomb spots shall be perpendicular to the surface or slightly undercut; no feathered edges will be permitted. Area to be patched, including adjacent surfaces extending at least 6 inches in all directions from the patched area, shall be dampened to prevent absorption of water from the patching mortar. If patching is not done

within seven days after form removal, an approved bonding compound (as specified) shall be applied prior to patching. Defective areas shall not be patched until permission is obtained from the ENGINEER in each specified case. Cement and sand shall be obtained from the concrete supplier so as to match adjacent work.

3.10.2. Formed Concrete: Concrete which is not formed as shown on the plans, is out of level or alignment, or is defective in appearance, shall be corrected or replaced to the ENGINEER's satisfaction at the CONTRACTOR's expense.

3.10.2.1. Concrete surfaces not exposed to view, surfaces more than 1 foot below finished grade and interior surfaces of tanks and basins more than 1 foot below the water level need not be finished except for correcting imperfect spots.

3.10.2.2. Unless otherwise noted, all exposed concrete surfaces, including exterior and interior of buildings and exposed basin and tank walls, shall be given a trowel and float finish using a cement-base waterproof coating material such as Thoroseal Plaster Mix or equal. The material shall be mixed and applied in accordance with the manufacturer's instructions to provide a smooth uniform dense finish without holes, voids, uneven surfaces or other defects. Work shall be done to the satisfaction of the ENGINEER. Rubbing concrete with stones or similar abrasives will not be permitted.

3.10.2.3. Tops of walls and walk beams shall be screeded to a uniform surface and finished with a wood float.

3.10.3. Flatwork: Surfaces shall be screeded to the elevations and profiles indicated before bleedwater accumulates. Finishing shall not be started until all bleedwater has disappeared from the surface.

3.10.3.1. Float Finish: Bottoms of tanks and slabs not otherwise specified shall be power floated to a true plane so that depressions between high spots will not exceed 5/16-inch under a 10-foot straightedge. Surfaces shall be refloated immediately to a uniform texture. Hand float shall be used in areas inaccessible to power floats.

3.10.3.2. Broom or Belt Finish: Exterior slabs shall be given a float finish as specified above. A broom or burlap belt shall then be drawn at right angles to the long dimension to obtain a textured finish.

3.11. WALKS

Concrete walks shall be provided where shown on the plans. Walks shall be 4 inches thick, unless otherwise noted. Contraction joints shall be provided every 5 linear feet, cut to a depth of 1-inch with a small radius-jointing tool. Expansion joints shall be provided at 30-foot intervals and at crosswalks, curbs and other structures, and shall be made with premolded bituminous joint filler. Walks shall be brought to the proper grade and cross section with a float, and finished with a broom or brush at right angles to the direction of traffic. All edges shall be tooled with a small radius-edging tool.

3.12. ADDITIONAL FOUNDATION CONCRETE

If required by foundation conditions, additional concrete shall be placed under footings of structures, as directed by the ENGINEER. This additional concrete shall be Class C. The joint between the Class C concrete and foundation concrete shall be coated with a bonding compound.

3.13. GROUT

Cement-sand grout shall be pumped into existing pipes being abandoned in place shown on the plans. Grout shall consist of 1 part Portland cement and 2½ parts sand by weight. Sand shall be a maximum diameter of 1/8-inch.

(End of Section 03300)

INTENTIONALLY BLANK

PART ONE – GENERAL:**1.1 RELATED DOCUMENTS**

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Aluminum pipe and tube railings
 - 2. Infill system for pipe and tube railings

1.3 PERFORMANCE REQUIREMENTS

- A. All railings shall be supplied to conform to applicable sections of the following codes:
 - 1. International Building Code
 - 2. ADAAG
- B. Structural Performance: Provide railings capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf. applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 - 2. Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf. applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 - 3. Infill Area of Guards:
 - a. Horizontal concentrated load of 50 lbf. applied to 1 sq. ft. at any point in system, including panels, intermediate rails, balusters, or other elements composing infill area. Load on infill area need not be assumed to act concurrently with loads on top rails.
- C. Thermal Movements: Provide exterior railings that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of

components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120°F, ambient; 180°F, material surfaces.

- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials. Infill panels constructed of steel shall be treated by an electro coat process.

1.4 SUBMITTALS

- A. Product Data: For the following:
1. Manufacturer's product lines of mechanically connected railings.
 2. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design.
- D. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.
- E. Qualification Data: For professional engineer.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, according to ASTM E 935.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing through one source from a single manufacturer.
- B. Mock-up Panel: one section of railing system for verification.
1. Approximate Size: ¼ to ½ full size, using full size components.
 2. Approved mockups may become part of the completed Work if undamaged at time of Substantial Completion.
 3. Approval of mockups does not constitute approval of deviations from the Contract Documents unless such deviations are specifically approved by Architect in writing.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 COORDINATION AND SCHEDULING

- A. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- B. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Railing Product: Subject to compliance with requirements, provide Speed-Rail® in 2-line design as manufactured and assembled by Hollaender® Manufacturing or an approved equivalent.

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.3 ALUMINUM

- A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.
- B. Extruded Bars and Tubing: ASTM B 221, Alloy 6063-T5/T52, 6005-T5
- C. Extruded Structural Pipe and Round Tubing: ASTM B 429, Alloy 6061-T6, ASTM B221, Alloy 6005-T5.

Provide 1 ½ in IPS, (1.90 in OD) Standard Weight (Schedule 40) pipe for rails, Schedule 80 for posts, unless otherwise indicated

- D. Drawn Seamless Tubing: ASTM B 210, Alloy 6063-T832
- E. Plate and Sheet: ASTM B 209, Alloy 6061-T6
- F. Die and Hand Forgings: ASTM B 247, Alloy 6061-T6
- G. Base Flange Castings: ASTM B 26/B 26M, Alloy Almag 535
- H. Panel Clips: Alloy 6063-T6.

2.4 STEEL

- A. Perforated Sheet: ASTM A1008.

2.5 FASTENERS

- A. General: Provide the following:
 - 1. Aluminum Railings: Alloy steel fasteners with JS-600 zinc plating.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:
 - 1. Provide Speed-Rail® structural slip-on fittings for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated. Systems using adhesive or pop rivet attachment systems will not be accepted.
 - 2. Provide internal/external, reverse knurl, cup point, hex head set screws. Material to be alloy steel with JS 600 zinc plating.
- D. Fasteners for connecting pickets to top and bottom rail:
 - 1. Use Hollaender aluminum 156-85 component picket tees, machined from 6063-T6 aluminum alloy, to attach ¾ in IPS Sch. 10 picket to top and bottom rails. Picket tees to be attached using threaded self-tapping machine screws, size 1/4-20 x 1. Picket tees to have notch that allows water to escape from picket and prevent freezing.
- E. Anchors: Provide concrete adhesive anchors where indicated or necessary.

2.6 PICKET INFILL FOR RAILINGS

- A. Panel:

1. Picket infill shall be $\frac{3}{4}$ in IPS, Sch. 10, 6063-T6 aluminum pickets, attached to top and bottom rails by 156-85 aluminum component tees
2. Spacing to be 4 in c-c
3. Picket tees to be attached to top and bottom rails with threaded self-tapping machine screws, size $\frac{1}{4}$ - 20 x 1. Picket tees to be attached to pickets by friction fit through the use of mechanical or hydraulic pressure.
4. Top and bottom rail to be 1 $\frac{1}{2}$ in IPS, Sch. 40, 6063-T6 aluminum
5. Pickets to be installed such that no welding or tool marks will be needed or visible, and pickets will be firmly fixed with no movement allowed.
6. Individual picket tees to have notches allowing escape of any water build up in the pickets.

2.7 HANDRAIL FOR ADA RAMPS OR STAIRWAYS (AS REQUIRED)

1. Ramps that have a drop off of 30 inches or more on the side require guardrail, per above spec. Ramps with a rise greater than 6 inches shall have handrails on both sides.
2. Stairways shall have handrails on both sides.
3. Handrail will be attached to the guardrail sections using Hollaender model 85 adjustable brackets.
4. Handrail will be installed at a height of 34 – 38 inches above ramp surface or stair tread nosings.
5. Handrail will be anodized aluminum 6063 Sch. 40, 1 $\frac{1}{2}$ in IPS nominal (1.90 in. OD) and shall have a continuous surface. Where necessary, lengths of the handrail will be spliced using Hollaender Model 70ES-8 internal locking splices.
6. Handrails shall return to a wall, guard or walking surface. If returning to the guard, Hollaender model 185 post return swivel shall be used to connect the end of the handrail to the guardrail post.

2.8 MISCELLANEOUS MATERIALS

- A. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.9 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately $\frac{1}{32}$ inch, unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form work true to line and level with accurate angles and surfaces.

- D. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- E. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- F. Connections: Fabricate railings with non-welded connections, unless otherwise indicated.
- G. Non-welded Connections: Connect members with Speed-Rail® fittings of the structural slip-on type which fastens to the exterior of the pipe by means of an internal/external reverse knurl cup point set screw. Reverse knurl is required to ensure that screw does not come loose under vibration. Plain cup point screws will not be accepted.
- H. Form changes in direction as follows:
 - 1. By flush bends or by inserting prefabricated flush-elbow fittings.
- I. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- J. Close exposed ends of railing members with prefabricated end fittings.
- K. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
- L. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work, unless otherwise indicated. Flanges to be sand cast from aluminum alloy 535 with anodized finish and fastened directly to the post by means of two reverse knurl cup point set screws.
- M. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.10 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

2.11 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Unless indicated otherwise, provide aluminum pipe with the following finish:
 - 1. Anodized Finish: AA-M10C22A41 (Architectural class, .7 mil thickness or greater)
- C. Speed-Rail® slip-on fittings to have architectural tumbled mill finish.

2.12 STEEL FINISHES

- A. Perforated Sheet Metal Infill Panel:
 - 1. Primer/Corrosion Protection – approx.. 1 mm coating provided by electro-coat process.
 - 2. Finish: Powder coat
 - a. Color: RAL 7035 Light Gray as selected by Architect from manufacturer's full line.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.

3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Non-welded Connections: Use mechanical joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to 1 side, and locate joint within 6 inches of post.

3.4 ANCHORING RAILING ENDS

- A. Anchor railing ends to concrete and masonry with round flanges connected to railing ends and anchored to wall construction with anchors and bolts.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends using non-welded connections.

3.5 ATTACHING HANDRAILS TO WALLS

- A. Attach handrails to wall with wall brackets. Provide brackets with 1-1/2-inch clearance from inside face of handrail and finished wall surface.
- B. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- C. Secure wall brackets to building construction as indicated, or if not indicated, as follows:
 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 2. For hollow masonry anchorage, use toggle bolts.
 3. Provide blocking between studs in stud wall construction.

3.6 ADJUSTING AND CLEANING

- A. Clean aluminum and stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

3.7 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

(End of Section 05720)

INTENTIONALLY BLANK



October 24, 2025

Christopher Lambka, RLA
The Landplan Group South, Inc.
1206 Scott Street
Columbia, South Carolina 29201

Reference: **Report of Geotechnical Exploration**
 Subertown Road Sidewalk Project and Asphalt Coring
 Subertown Road
 Whitmire, Newberry County, South Carolina
 UES Proposal No. A255121.00172.000

Chris:

UES Professional Solutions 29, Inc. (UES), formerly known as Summit Engineering, Laboratory & Testing, Inc., is pleased to submit this Report of Geotechnical Exploration for the Subertown Road Sidewalk Project in Whitmire, South Carolina. Our services were performed in general accordance with our proposal dated July 31, 2025. This report presents the results of the field exploration, along with a brief description of the project information provided to us, general site and subsurface conditions revealed during our exploration for the proposed development.

Project and Site Description

The project will consist of a new sidewalk on the northern side of Subertown Road at 3 locations between Gary Street and Young Lane. There will be retaining walls to the rear of the sidewalk at each location. The retaining walls will range from approximately 20 to 80 feet in length. In addition, possible pavement remediation will be performed in several roads in downtown Whitmire as part of a Downtown Streetscape project. A new parking lot will be constructed off of Seltzer Alley in Whitmire.

The area for the new sidewalk and retaining walls is off the shoulder of Subertown Road in existing grass areas. There are some existing utilities along the shoulder at the edge of the road in each location. HA-1 is located beneath overhead power lines. A previous building has been demolished and removed at the location of the new parking lot off of Seltzer Alley. Some minimal building debris from the demolition was observed on the site.

Exploration Procedures

Four (4) hand-auger borings with dynamic cone penetrometer testing were performed for the project. Hand augers HA-1 to HA-3 were performed along Subertown Road for the new sidewalks and retaining walls. These hand augers were performed to depths of 8 feet each. Hand auger HA-4 was performed at the location of the parking lot on Seltzer Alley and was performed to a depth of 5 feet.

The hand-auger borings were conducted in general conformance with ASTM D 1452. In this procedure, auger borings are made by rotating and advancing an auger to the desired depths while periodically removing the auger from the hole to clear and examine the auger cuttings. The auger cuttings were visually classified in the field with select soil samples returned to our soils laboratory for further evaluation.

Dynamic cone penetrometer (DCP) testing was performed at 1 foot intervals in each hand auger to provide an indication of the soil support and suitability at each location. During DCP testing at the hand auger locations, the conical point of the DCP is first seated to penetrate loose cuttings, and then driven into the soil in additional increments of 1-3/4 inches with blows from a 15 pound hammer falling 20 inches. The number of hammer blows required to achieve this penetration is recorded, and is an index to the soil strength and density.

In addition, asphalt coring was performed at locations on South Railroad Avenue, Market Street and Seltzer Alley to check the thickness of the asphalt and stone base at each location. The core locations were patched with cold patch asphalt upon completion.

Subsurface Conditions

Subertown Road Sidewalks - The hand augers along Subertown Road for the proposed sidewalk and retaining wall (HA-1 to HA-3) consisted of possible fill soils in the upper 2 to 3 feet underlain by residual soils. The possible fill soils consisted of loose to medium dense silty SAND (SM), loose clayey SAND (SC) and firm to stiff clayey SILT (ML). Some roots and gravel were observed in several samples. The residual soils mainly consisted of medium dense silty SAND (SM) and stiff to very stiff sandy SILT (ML) with some rock fragments at a depth of 7 to 8 feet in HA-3. The DCP values ranged from 4 to in excess of 15 blows per increment. DCP values of 4 to 7



blows per increment were encountered in the upper 1 to 3 feet in each hand auger. The DCP values were in excess of 10 blows per increment for the remaining depth of each hand auger.

Seltzer Alley Parking Lot - The hand auger for the parking lot (HA-4) consisted of possible fill soils in the upper 4 feet underlain by residual soils. The possible fill soils consisted of medium dense clayey SAND (SC) and stiff sandy CLAY (CL). Some gravel was observed in the near surface samples. The residual soils consisted of medium dense clayey SAND (SC). The DCP values ranged from 12 to in excess of 15 blows per increment.

Groundwater was not encountered in the hand auger borings at the time of drilling. Longer term groundwater measurements were not performed. It should be noted that regional groundwater levels will fluctuate with seasonal and climatic changes and may be different at other times.

Seasonal variations in ground water levels could result in water levels substantially varying from those depicted on the boring records. Ground water level information is obtained by observing depth to which water accumulates in open boreholes during the exploration. The near surface soils can be conducive to the development of a temporarily high groundwater condition (water ponding at the surface) following periods of inclement weather. If longer term water levels are crucial to the development of this site, it would be prudent to track water levels with the use of piezometers.

Asphalt Coring

Asphalt coring was performed at 3 separate locations on South Railroad Avenue, Market Street and Seltzer Alley to check the thickness of the asphalt and stone base at each location. The thickness measurements of the asphalt and stone base are detailed below for each location.

Core Number	Asphalt Thickness (in.)	Stone Base Thickness (in.)	Total Thickness (in.)
C-1 (South Railroad Avenue)	4.0	2.0*	6.0
C-2 (Market Street)	4.0	8.0*	12.0
C-3 (Setzler Alley)	2.0	1.0**	3.0

*Base was a mixture of soil and stone base.

**Sand Base



Site Preparation

Site preparation should begin with the removal of unsuitable surface materials. This should include clearing vegetation, stripping organic-laden topsoil, grubbing roots, and undercutting unsuitable surface soils to a minimum of 5 feet outside the structural limits. After the removal of any trees, all stumps and taproots should be completely removed from the sidewalk and pavement areas, and any voids created should be cleaned and backfilled with well-compacted structural fill. Any surficial organic soil (topsoil) should be removed during the initial stripping operation. Some underground utilities are located along Subertown Road near the location of the sidewalk and retaining wall. Any underground utilities beneath the foundations should be removed and relocated if possible.

Since there is possible existing fill at each location, it is possible that buried debris, trash or other deleterious material may be encountered between our hand auger locations in unexplored areas of the site. If debris or deleterious material is encountered, it should be removed and replaced.

The site preparation process will disturb subgrade soils. The disturbed subgrade should be densified to a more uniform consistency by making several perpendicular passes with a large roller. Following densification, we recommend that all areas to receive engineered fill or foundations be proof-rolled with a loaded tandem axle dump truck or other similar heavy construction equipment to confirm the stability of the subgrade soils and detect the presence of soft or unstable areas. Our geotechnical engineer or his representative should observe the proof-rolling operations. If proof-rolling reveals unstable conditions, the method of repair should be as directed by the project geotechnical engineer, but will likely consist of several options, such as undercutting the unsuitable soils and replacement with adequately compacted structural fill, scarifying and reconditioning, or the use of geotextiles or geogrids with select granular fill for ground stabilization.

The existing soils should perform fairly well during a proofroll based on our hand augers; however, it is possible that some soft areas may be encountered between our boring locations during the proofrolling operations. If any soft areas are encountered, these areas should be undercut or stabilized as described above. If the site work is performed during a wet period of the year or following heavy rains, then some soft and wet soils may be encountered. The grades should be sloped to provide positive drainage.



During grading operations hidden features in the substratum may be encountered within the proposed construction area. Details regarding removal of deleterious material must be determined on a case-by-case basis, and, therefore, contract documents should include a contingency cost for the removal of subsurface features. Excavated areas should be backfilled in general accordance with the compacted fill recommendations presented herein. Site preparation monitoring by UES personnel is recommended.

We also recommend that site grading be performed during the period from late spring to early fall when groundwater levels are typically at their lowest levels. In addition, drying of any wet near-surface soils will be much easier to perform. Proofrolling the soils during the wetter winter months when the soils are typically wet may cause pumping or rutting and unsuitable soil conditions that will likely require over-excavation and replacement. Additionally, every effort should be made to maintain adequate drainage away from construction areas to reduce saturation of subsoils.

Structural Fill Material

The existing on-site soils may be used as structural fill provided these soils are non-plastic and free of deleterious and/or organic material (surficial organic soil or rootmat), and is at a moisture content that facilitates compaction in accordance with the project specifications. Some minimal roots were encountered in the near surface soils in some of the samples, and if any roots or other deleterious materials are encountered in proposed fill soils, they should be removed if the soils will be used as structural fill. In addition, structural fill material should have particle sizes of less than four (4) inches in diameter and should not have a maximum dry density of less than 90 pounds per cubic foot as determined by ASTM D-698 without approval from the geotechnical engineer.

If off-site soils are brought in to be used as structural fill, these soils should be free of organic/deleterious material, and should be tested by UES for compliance with the above criteria prior to use on-site. If off-site soils are used, these soils should generally have low to moderate plasticity characteristics consistent with USCS material classifications of CL, ML, SC, SM or better as determined by ASTM D-2487.



All structural fill and backfill material should be placed in approximate eight to ten (8-10) inch thick loose lifts and compacted to 95 percent of the standard Proctor maximum dry density and to within (+/-) 3 percent of the fill's optimum moisture content as determined by ASTM D-698. The structural fill compaction requirement should be increased to 98 percent of the standard Proctor maximum dry density within the final foot beneath pavements. Some moisture conditioning of the soils (such as wetting and drying) may be required during the filling operation to obtain the required degree of compaction. Regular one-point proctors should be conducted to ensure that the most representative Proctor curve is being selected. Field density tests should be performed by UES on each lift of structural fill placed and at a frequency determined by the geotechnical engineer to verify compliance with project compaction specifications.

The contractor should exercise care after these soils have been compacted. If water is allowed to stand on the surface, these soils may become saturated. Therefore, the fill surface should be sloped to achieve positive drainage and to minimize water from ponding on the surface. If the surface becomes excessively wet, fill operations should be halted and our geotechnical engineer consulted for guidance. Testing of the fill material and compaction monitoring by our engineering technician is recommended during fill placement operations.

Pavement Considerations

The pavement for the parking lot on Setzler Alley should be constructed on properly prepared, proofrolled and stable soil subgrades approved by UES's geotechnical personnel. There is a possibility that some unanticipated fill soils or other deleterious material may be encountered in the subgrade soils that may require undercutting depending on the condition of the soils at the time of grading. Any soft areas that may be encountered during the proofrolling operations should be undercut and replaced with select structural fill or stabilized as described in the Site Preparation section. Depending on the depth of any fill in the paved areas, it may be possible to "bridge" over the soft subgrade soils with a layer of granular fill. The bridging option will be dependent on the depth of any fill to be placed in the paved areas.

After any remediation of the subgrade soils are performed, the near surface soils are generally considered acceptable for pavement support when prepared to a dense and uniform consistency of at least 98% of the standard Proctor maximum dry density and within +/- 2% of the soil's optimum moisture content.



Based on our past work experience within this area and considering the soils that were encountered in the borings, we recommend a maximum CBR value of six (6) be used in the design of project pavements. Utilizing a CBR value of six (6) and assuming car and light truck traffic for the parking lot, we recommend the following pavement section.

Light Duty Pavement Section for Parking Lot

Asphalt Surface Course (Type C or equivalent) – 2.0”

Crushed Aggregate Base Course (CABC) – 6.0”

For the sidewalk, the concrete pavement design should include appropriate air entrainment, and appropriate joints and joint spacing to minimize uncontrolled cracking. The sidewalk should consist of a minimum of 4 inches of concrete. If stone base is used beneath the sidewalk, a minimum of 4 inches of stone base should be placed. If stone base is not installed, the subgrade should be proofrolled or hand probed if proofrolling cannot be performed to confirm the subgrade condition.

The typical pavement sections are based on the assumption that all pavements will be constructed on properly prepared, proofrolled and stable soil subgrades approved by UES’s geotechnical personnel. Light-duty pavements should be designed for car parking areas only, and should not be subjected to any truck traffic. Heavy-duty pavements should be designed for entrance and exit drives, access roads, and travel lanes. It is recommended that any areas subjected to excessive starting and stopping motion be supported with concrete pavement constructed in general accordance with ACI 330R-01. Different combinations of materials and depths, varied to provide roughly equivalent strengths, can achieve serviceable flexible pavements.

We do not anticipate that highly plastic soils will be exposed at design subgrade. However, the subgrades should be carefully examined by an experienced geotechnical engineer following rough grading to evaluate whether or not any highly plastic soils or soft wet soils are present. If highly plastic soils are exposed in pavement subgrades, they should be undercut to a depth of 2 feet and be replaced with adequately compacted low plasticity soils or can be treated with lime to reduce their objectionable behavior when wet. It is critical that a thorough proofrolling be performed on the subgrade soils prior to fill or stone base placement. Any soft or loose materials encountered should be evaluated by a UES geotechnical engineer and if necessary removed and backfilled with properly placed and compacted structural fill in accordance with Section 4.3 of this report.



The long-term performance of any pavement section is directly related to drainage of the base and subgrade. We emphasize the good base course and subgrade drainage is absolutely essential for successful pavement performance. Water buildup in the base course will result in premature pavement failures. The subgrade and pavement should be graded to provide rapid runoff to either the outer limits of the paved area or to catch basins so that standing water will not accumulate on the subgrade or pavement surfaces. Any areas that allow water or groundwater to enter the pavement system will require sub drains (i.e. French drains) installed to prevent water entry into the pavement base and subgrades.

The majority of pavement sections incur their heaviest loads during the construction process. The construction loads are generally in excess of the design traffic loads. For this reason, we recommend that construction be staged to allow final preparation of the base course and paving to be performed near the end of the project when heavy construction equipment is not present.

Flexible asphalt pavements, concrete pavements and bases should be constructed in accordance with the guidelines of the latest applicable South Carolina Department of Transportation Specifications. Materials, weather limitations, placement and compaction are specified under appropriate sections of this publication. Concrete pavement construction should be in accordance with applicable American Concrete Institute (ACI) guidelines.

Earth Slope and Retaining Walls

Retaining Wall Foundations

Conventional shallow spread and continuous footings bearing on newly placed structural fill, existing residual soils or approved existing fill soils may be designed for a net allowable bearing pressure of 2,500 pounds per square foot (psf) for the retaining wall foundations. If any soft soils are encountered in the footing excavations, they should be undercut and replaced with washed stone or other approved material as needed. It is possible that some buried debris or other deleterious materials may be encountered below the anticipated finished grades. If these materials are encountered in the footing excavations, they should be removed and replaced.

Footing excavations should be evaluated to verify that the subsurface soils are capable to support the required structural load at that location by a UES representative. We recommend utilizing a Dynamic Cone Penetrometer (DCP) throughout the retaining wall footing to confirm that the soils at the bearing grade are capable to support the required load. Any groundwater or surface runoff



water should be removed prior to backfilling. Since the subgrade soils may degrade when exposed to water, foundation excavations should be protected. We recommend placing concrete as soon as the bearing surface is evaluated, or if excavations will be left open for more than 24 hours, we recommend the footing excavations be over-excavated two to three inches and a mud mat or lean concrete be placed in the bottom of the foundation excavations to protect the foundation bearing material. We anticipate that the shallow footings can be excavated using conventional equipment.

If unsuitable bearing soils are encountered in footing excavations, the excavation should be extended deeper to suitable soils and the footing should bear on free draining stone such as 57 stone or properly compacted structural fill. Overexcavation of footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. If structural fill is placed in the overexcavated area it should be compacted as described in Section 4.3 of this report. As an alternative, the footings could bear directly on the suitable soils at the lower level or on a lean concrete (flowable fill) backfill placed in the overexcavated area.

As stated earlier, it is critical that all foundation excavations be observed by a UES geotechnical engineer or his representative prior to placement of reinforcing steel and concrete. The purpose of the engineering observation would be to determine that the foundations bear in suitable soils at the proper embedment depths, and that unsuitable soft or loose materials are undercut and backfilled with approved structural fill material.

Backfill and Lateral Earth Pressure Requirements

Formal slope stability analysis is beyond our scope of study, however, we recommend that permanent slopes behind the retaining walls be no steeper than 2 horizontal to 1 vertical (2H:1V). Flatter slopes are recommended for maintenance purposes. We recommend that slopes be covered with surface vegetation or rocks to protect against erosion. In addition, the crest of the slopes should not be located closer than 10 feet from any structural foundation and within five (5) feet of pavement areas. All proposed slopes that are to be steeper than 2H:1V should be specifically analyzed for slope stability once final plans are available. This analysis should include laboratory testing (triaxial shear test, Atterberg limits, gradation, and moisture content) to determine the engineering strength parameters of the proposed embankment soil.



Retaining walls must be capable of resisting the lateral earth pressures that will be imposed on the walls. Based on the material types, the earth pressure coefficients detailed below are recommended. Walls that will be laterally restrained and not free to deflect or rotate (i.e., basement walls or loading dock walls tied into existing slabs on grade) should be designed using the “at-rest” (K_o) earth pressure condition. Walls that are not restrained (retaining walls) and can tolerate the required movement can be designed using the “active” (K_a) earth pressure condition. A third condition, the “passive state” (K_p) represents the maximum possible pressure when a structure is pushed against the soil and is used in wall foundation design to help resist “active” or “at-rest” pressures. The earth pressure coefficients used in the design will depend upon the type of backfill used.

Imported No. 57 stone or approved free draining granular soil typically is suitable for use as backfill within the “active” zone of the foundation walls. Soils with Plasticity Index values greater than 10 ($PI > 10$) should not be used for backfill behind the walls within the “active” zone. Additionally, soils with high mica content should not be considered for use as backfill behind the walls within the “active” zone. The active zone is typically modeled by an area extending rearward one foot from the base of the wall footing and then extending upward toward the ground surface at an inclination of 45 degrees plus one-half of the internal angle of friction ($45^\circ + \Phi/2$).

Based on the results of our geotechnical exploration, we recommend the following lateral earth pressure coefficients be used for design purposes:

LATERAL EARTH PRESSURE PARAMETERS (Level Backfill)

Material Group Symbol	Internal Friction Angle ϕ	Moist Unit Weight, γ (pcf)	Earth Pressure Coefficients		
			Active (K_a)	At-Rest (K_o)	Passive (K_p)
Clayey Sands (SC)	30	110	0.33	0.50	2.78
Sandy Silts (ML) and Silty Sands (SM)	32	110	0.31	0.47	3.26
No. 57 Stone	36	120	0.26	0.41	3.85

The values in the table above are assumed based on the types of soils encountered in the borings. Specific laboratory testing can be performed of any potential backfill soils to confirm the values for use in design of retaining walls or below grade walls.



Passive earth pressure of the soil adjacent to the wall footing, as well as soil friction at the footing base, may be used to resist sliding. Because significant wall movements are required to develop the "passive" earth pressure, the total calculated "passive" pressure may be reduced by one-half to two-thirds for design purposes. A coefficient of 0.35 could be reasonably assumed for evaluating allowable frictional resistance to sliding at the foundation (concrete)-soil contact. The design bearing pressure for the retaining wall foundations should correspond to the value provided earlier in this report.

The recommended earth pressure coefficients assume horizontal backfill and that constantly functioning drainage systems are installed between walls and soil backfill to prevent the build-up of hydrostatic pressures and lateral stresses in excess of those stated. Even though shallow groundwater was not encountered, wall drainage is very important because of the potential for infiltration of surface water and water from other sources (leaks, irrigation, etc.). In addition, damp proofing should be applied to the outside of below grade walls. If a sufficient drainage system is not installed, the lateral earth pressures should be computed using the buoyant weight of the soil and the hydrostatic pressure due to the water must be added to the earth pressure to estimate the lateral earth pressure for design. A water collection system consisting of 4 to 6-inch diameter, slotted, corrugated polyethylene tubing per ASTM F405 (Standard Specification for Corrugated Polyethylene Pipe and Fittings), surrounded by at least 12 inches of No. 57 stone can be used along the inside face of the wall and on top of the footing. Completely encapsulate the aggregate with drainage geotextile. These pipes should then discharge by gravity to a lower lying area of the site beyond the building and pavement limits, or to a sump with a pump.

Special care should be taken while compacting the backfill behind any retaining walls. Over-compaction of backfill behind retaining walls may result in the buildup of excessive lateral pressures, and potential structural distress. To avoid over-compaction of the backfill behind walls, we recommend that the backfill within 5 feet of the wall be compacted with small hand operated equipment to at least 95 percent of the maximum dry density of the standard Proctor as determined by ASTM D698. Heavy compaction equipment and large construction equipment should not operate within 5 feet of the embedded wall to avoid the buildup of excessive lateral pressures, unless the walls have been designed to accommodate these forces. All backfill material behind the retaining walls should be placed in approximate eight to ten (8-10) inch thick loose lifts and compacted to 95 percent of the standard Proctor maximum dry density and to within (+/-) 3 percent of the fill's optimum moisture content as determined by ASTM D-698.



Groundwater and Drainage Considerations

Subsurface water for the purposes of this report is defined as water encountered below the existing ground surface. Groundwater was not encountered in the hand auger borings at the time of drilling. Each of the hand auger borings were backfilled with soil cuttings following subsurface water readings. Longer term groundwater measurements were not performed. It should be noted that regional groundwater levels will fluctuate with seasonal and climatic changes and may be different at other times.

Seasonal variations in ground water levels could result in water levels substantially varying from those depicted on the boring records. Ground water level information is obtained by observing depth to which water accumulates in open boreholes during the exploration. The near surface soils can be conducive to the development of a temporarily high groundwater condition (water ponding at the surface) following periods of inclement weather. If longer term water levels are crucial to the development of this site, it would be prudent to track water levels with the use of piezometers.

Based on our hand auger borings, it does not appear that subsurface water will be encountered during construction. If any perched water is encountered, it should be removed by gravity draining ditches or by pumping with sumps.

An important aspect to consider during development of this site is surface water control. During the construction, we recommend that steps be taken to enhance surface flow away from any excavations and promote rapid clearing of rainfall and runoff water following rain events. It should be incumbent on the contractor to maintain favorable site drainage during construction to reduce deterioration of otherwise stable subgrades.

It should be noted that fluctuations in subsurface water levels and soil moisture can be anticipated with changes in precipitation, runoff, season, and construction activities. The contractor should be prepared to dewater should water levels vary from those encountered during the drilling program. Construction during wet seasonal conditions (typically November through April) with heavy precipitation may result in a perched groundwater table or softening of the soils at the surface. These conditions could greatly influence the results of the proofroll, which may require that some stabilization of the subgrade would be necessary prior to the placement of structural fill. This could result in encountering subsurface water levels at elevations higher than those observed during our exploration.



Qualifications of Report

If the project information provided to us is changed, please contact us so that our recommendations can be reviewed and appropriate revisions provided, if necessary. The discovery of any site or subsurface conditions during construction which deviate from the data outlined in the exploration should be reported to us for our review, evaluation and revision of our recommendations, if necessary. The assessment of site environmental conditions for the presence of pollutants in the soil and groundwater of the site is beyond the scope of this exploration.

Closing

UES appreciates the opportunity to be of service to you on this project. If you have any questions concerning the information presented herein or if we can be of further assistance, please feel free to call us at (864) 932-3705.

Sincerely,

UES PROFESSIONAL SOLUTIONS 29, INC.



Ross R. Deaver, P.E.
SC Regional Manager

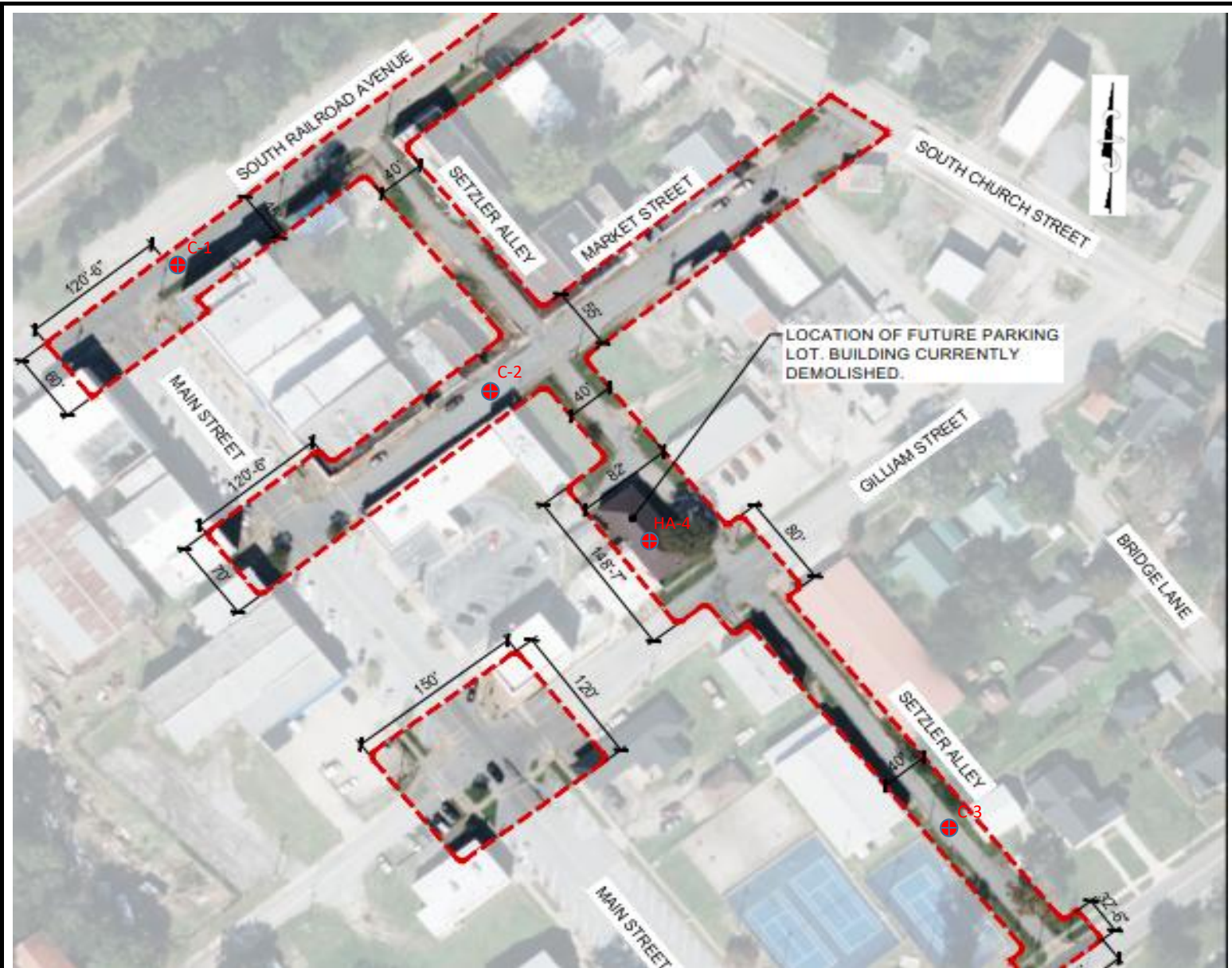




UES Professional Solutions 29, Inc.
1029 Old Stage Road, Suite D
Simpsonville, SC 29681
(864) 932-3705

Subertown Road Sidewalk Project
Whitmire, South Carolina
UES Project No. A25121.00172.000

Figure No. 1
Boring Location Plan



UES Professional Solutions 29, Inc.
1029 Old Stage Road, Suite D
Simpsonville, SC 29681
(864) 932-3705

Whitmire Downtown Streetscape
Whitmire, South Carolina
UES Project No. A25121.00172.000

Figure No. 2
Boring Location Plan



Unified Soil Classification System

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than half of material is larger than No. 200 (+) sieve size (75 μm).	GRAVEL & GRAVELLY SOILS More than half of coarse fraction is larger than No. 4 sieve size (4.75 mm).	CLEAN GRAVEL (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
			GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS More than half of coarse fraction is smaller than No. 4 sieve size (4.75 mm).	CLEAN SAND (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SP	Poorly graded sands, gravelly sands, little or no fines.
			SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS More than half of material is smaller than the No. 200 sieve size (75 μm).	SILTS AND CLAYS Liquid Limit Less than 50		ML	Inorganic silts & very fine sands, rock flour, silty or clayey fine sands or clayey silts w. slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic clays of low plasticity.
	SILTS AND CLAYS Liquid Limit Greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat, humus swamp soils with highly organic contents.

Note: All sieve sizes on this chart are based the U.S. Standard.

* Dual group symbol classification may be required for soil possessing characteristics of two soil groups.

Reference: After U.S. Army Engineers Waterways Experiment Station (1967) and Das (1985).



HAND AUGER BORING & DCP TESTING SHEET

Project Name: Subertown Road Sidewalk Project

Date : 10/9/25

Project Number : A25121.00172.000

Lot # :

Performed by : UES

County :

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-1	0	1'	Brown Silty SAND (SM) with roots - dry (Possible Fill)	0	6	6	7	7.0
	1'	3'	Orange and brown, slightly micaceous, Silty SAND (SM) (Possible Fill)	1	12	14	14	14.0
			with slight roots	2	10	14	15	15.0
	3'	5'	Orange and brown, slightly clayey, silty SAND (Residual)	3	15+			15+
			"	4	13	15+		15+
	5'	7'	Brown and tan, slightly micaceous, sandy SILT (ML)	5	11	14	15+	15+
			"	6	12	15+		15+
	7'	8'	Brown and tan, slightly micaceous, Silty SAND (SM)	7	15+			15+
			"	8	11	14	15	15.0
			Hand Auger terminated at 8 feet					
HA-2	0	2'	Brown, Clayey SILT (ML) with roots (Possible Fill)	0	5	6	6	6.0
			"	1	7	8	11	10.0
	2'	3'	Grey and brown, medium to fine, SAND (SP) with gravel - wet (Possible Fill)	2	8	9	12	11.0
	3'	4'	Brown and tan, Sandy SILT (ML) - Residual	3	11	10	13	12.0
	4'	7'	Brown and tan, Silty SAND (SM) - dry	4	12	13	15	14.0
			"	5	10	15+		15+
			"	6	11	13	15+	15+
	7'	8'	Dark brown and grey, micaceous, Silty SAND (SM)	7	15+			15+
				8	13	15+		15+
			Hand Auger terminated at 8 feet					

Notes : HAR - Hand Auger Refusal

* Depth from existing ground surface
HAR - Hand Auger Refusal



HAND AUGER BORING & DCP TESTING SHEET

Project Name: Subertown Road Sidewalk Project

Date : 10/9/25

Project Number : A25121.00172.000

Lot # :

Performed by : UES

County :

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-3	0	1'	Brown Silty SAND (SM) with gravel - Possible Fill	0	4	5	5	5.0
	1'	3'	Brown Clayey SAND (SC) with slight roots - Possible Fill	1	5	4	4	4.0
			"	2	3	3	4	4.0
	3'	5'	Brown and grey, slightly micaceous, Silty SAND (SM) - Residual	3	8	9	11	10.0
			"	4	10	15+		15+
	5'	6'	Brown and grey, slightly sandy, Silty SAND (SM) with slight roots - dry	5	9	11	14	13.0
	6'	8'	Brown and grey, micaceous, Silty SAND (SM) - dry	6	12	13	13	13.0
			same - with small rock fragments	7	15+			
			"	8	15+			
			Hand Auger terminated at 8 feet					
HA-4	0	3'	Grey and brown, clayey SAND (SC) with gravel - Possible Fill	0	12	15+		15+
			"	1	15+			15+
			"	2	11	12	15+	15+
	3'	4'	Red and brown, Sandy CLAY (CL) - Possible Fill	3	11	11	12	12.0
	4'	5'	Red, brown and tan, Clayey SAND (SC) - Residual	4	12	14	15+	15+
				5	12	13	15	14.0
			Hand Auger terminated at 5 feet					

Notes :

HAR - Hand Auger Refusal

* Depth from existing ground surface

HAR - Hand Auger Refusal

APPENDIX III

Important Information About this Geotechnical
Engineering Report

Constraints and Restrictions

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold-prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical-engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910

Telephone: 301/565-2733 Facsimile: 301/589-2017

e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2015 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, or its contents, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document as a complement to or as an element of a geotechnical-engineering report. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

CONSTRAINTS & RESTRICTIONS

The intent of this document is to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

WARRANTY

Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS

We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT

Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION

This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS

Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES

Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING

Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS

Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS

All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME

This report reflects the soil conditions at the time of exploration. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.



SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

Encroachment Permit

Permit No: 200151220
Permit Decision Date: 09/11/2026
Expiration Date: 09/11/2027

Permit Type: Other -

District: 2 County: NEWBERRY

<u>Location:</u>	<u>Route</u>	<u>Street Name</u>	<u>Begin MP</u>	<u>End MP</u>
	NEWBERRY S- 188 E	GARY ST	0.32	0.46
	NEWBERRY S- 578 E	SUBERTOWN RD	0.066	0.14
	NEWBERRY S- 578 E	SUBERTOWN RD	0.14	0.408
	Gary St	No Street Name		
	Subertown Rd	No Street Name		

Contact Information:

Permittee: NewberryCountyCOScottSSawyer

Phone: (803)256-0562

Address: 1309 College Street

City: Newberry

State: SC

Zip: 29108

Scope of Work:

The proposed sidewalk will be installed on the north side of Subertown Rd (S-578) and the West side of Gary St (S-188). New concrete sidewalk starts at the intersection of Subertown Rd and Young Ln (local) and continues approximately 1,675 feet Northeast to the intersection of Gary St. The sidewalk continues Northwest along Gray St with curb and gutter for approximately 744 feet until connecting to the existing sidewalk.

Customer Agreement:

The Permittee, or an Authorized Agent submitting on behalf of the Permittee, electronically acknowledged the Customer Agreement as part of the application submittal. By that acknowledgment, the Permittee requested that SCDOT issue an encroachment permit for the Work described in the application and approved plans within SCDOT right of way.

If issued, the permit authorizes only the Work shown on the approved plans and is subject to all Permit Conditions/Provisions and any Special/Project-Specific Conditions issued with the permit. The Permittee is responsible for complying with all applicable SCDOT requirements and standards, including, as applicable, SCDOT's Access and Roadside Management Standards (ARMS), SCDOT's Utility Accommodations Manual, and SCDOT Standard Specifications for Highway Construction, as amended, and with all applicable federal, state, and local laws, permits, and regulations.

The Permittee is responsible for the Work and for any injury, death, or property damage arising out of or related to the Work or the permitted encroachment, and will defend, indemnify, and hold harmless SCDOT and its officers, employees, and agents from and against any claims, damages, losses, and expenses, including reasonable attorneys' fees, arising out of or resulting from the Work or the encroachment, except to the extent caused by the sole negligence of SCDOT.

This indemnification and hold harmless obligation does not apply to governmental entities.

The electronic acknowledgment of this agreement constitutes an electronic signature and has the same legal effect as a handwritten signature.

General Conditions:

G1. Definitions. “SCDOT” means the South Carolina Department of Transportation. “Permit” means SCDOT’s written authorization for the encroachment, activity, or Work described in this permit and shown on the approved plans, subject to all applicable Permit Conditions/Provisions. “Permittee” means the person or entity identified on this permit as legally responsible for the permitted Work and any approved encroachment. The Permittee must be the owner of the property, utility, facility, or encroachment being installed, modified, maintained, or otherwise authorized, or must otherwise have legal authority to accept responsibility for the permitted Work and encroachment. “Authorized Agent” means the person or entity authorized to prepare, submit, manage, or otherwise act on behalf of the Permittee in connection with the application or permit. If the application or permit is prepared, submitted, or managed by someone other than the Permittee, Agent Authorization is required. Agent Authorization must document that the Authorized Agent may act on behalf of the Permittee and that the Permittee accepts responsibility for the permitted Work and encroachment. “Work” means the activity authorized by this permit and shown on the approved plans, and only within SCDOT right of way. “Authorization to Perform Work” means the time-limited authorization to begin and perform the Work approved under this permit. For purposes of this permit, references to the Permittee include the Permittee’s contractors, subcontractors, agents, authorized representatives, successors, assigns, and anyone performing Work under this permit.

G2. Notice Prior to Work. The Permittee must make contact with SCDOT at least 24 hours prior to beginning Work in SCDOT right of way, unless otherwise directed by SCDOT.

G3. Permit, Plans, and Provisions at the Work Site; Inspection. The Permittee shall keep a copy of the approved permit, approved plans, and any applicable Permit Conditions/Provisions or Special Conditions at the Work site and shall make them available upon request. The Permittee is responsible for ensuring that its contractors, subcontractors, agents, and anyone performing Work under this permit have access to and comply with the approved permit, approved plans, and applicable Permit Conditions/Provisions or Special Conditions while on site. SCDOT may inspect the Work at any time, and the Permittee shall provide access for inspection.

G4. Traffic Control and Public Safety. The Permittee shall provide and maintain traffic control and protection of the traveling public, including pedestrians, as required for the Work. Traffic control shall comply with the MUTCD and any SCDOT requirements and shall be kept in place during the duration of the permitted Work.

G5. Standards of Work; Protection of Highway Facilities and Drainage. The Permittee shall perform the Work in a workmanlike manner and in accordance with the approved plans, provisions, and applicable SCDOT standards. The Permittee shall protect SCDOT facilities (including pavement, shoulders, curb and gutter, sidewalk, signs, guardrail, drainage structures, and vegetation) and shall maintain proper drainage of the highway and adjacent properties during and after the Work, with no runoff to SCDOT right of way.

G6. Utility Coordination and Excavation Near Utilities. Prior to excavation, the Permittee shall: (a) coordinate with utility owners as needed; (b) comply with utility locating requirements, including contacting SC811 (or other applicable locate service); and (c) use due care when excavating near utilities and shall not damage or disturb utilities. If an unmarked utility, conflict, or damage is encountered, the Permittee shall stop affected Work and notify the utility owner and SCDOT. Any third-party claims relating to Work performed by Permittee that damaged or disturbed utilities shall be responded to by Permittee within 10 days for notification of the claim by the 3rd party or SCDOT. Permittee shall defend and indemnify SCDOT from any and all third party claims and lawsuits.

G7. Relocation or Removal Upon Request. The Permittee shall, upon direction of SCDOT, relocate, adjust, or remove the permitted encroachment as necessary to accommodate highway construction, maintenance, operations, safety improvements, or other sufficient reason as determined by SCDOT. This includes relocation, adjustment or removal, as determined by SCDOT, that are required for highway projects administered by local governments, other state agencies, and developers under permit by SCDOT.

G8. Restoration, Cleanup, Maintenance, and Costs. The Permittee shall restore SCDOT right of way and any affected highway facilities to a condition acceptable to SCDOT and shall remove debris and excess materials. After the Work is completed, the Permittee remains responsible for maintaining the permitted encroachment and any associated restoration, repair, or replacement work in a condition acceptable to SCDOT. All Work, including restoration, maintenance, repair, relocation, and removal, shall be at the Permittee’s sole expense unless otherwise agreed in writing by SCDOT.

G9. Rights of Others; Third-Party Permissions. This permit does not convey property rights or authorize trespass on private property or other agency property. The Permittee is responsible for obtaining all permissions, easements, and approvals from third parties as necessary for the Work.

G10. Other Permits and Legal Compliance. The Permittee shall obtain and comply with all other required federal, state, and local permits, approvals, and regulations applicable to the Work.

G11. Environmental and Stormwater Compliance. The Permittee shall comply with all applicable environmental requirements. Where the Work requires coverage under an NPDES permit (or other stormwater authorization), the Permittee shall obtain and maintain such coverage and implement required erosion and sediment controls prior to beginning Work in SCDOT right of way.

G12. Noncompliance; Suspension or Revocation. SCDOT may issue a stop work order and may suspend or revoke this permit for noncompliance with the permit, approved plans, or applicable requirements. Upon notice from SCDOT, the Permittee shall stop Work as directed and shall take corrective action or remove the permitted encroachment as required by SCDOT. Failure to remove the permitted encroachment may result in violation of S.C. Code Ann. Section 57-7-10. An appeal of the decision to suspend or revoke can be made pursuant to the appeals process set forth in the SCDOT ARMS Manual.

G13. Corrective Action; Final Acceptance; Remedial Work and Reimbursement. If the Permittee has unresolved noncompliance under this permit, including failure to complete restoration, failure to complete corrective actions, or failure to pay any assessed charges, SCDOT may withhold final acceptance of the Work until the noncompliance is resolved to SCDOT's satisfaction. Upon notice from SCDOT, the Permittee shall complete corrective action within the timeframe directed by SCDOT. Where the noncompliance creates a hazard to the traveling public, creates a risk of further damage to SCDOT right of way, or involves a pothole or pavement defect subject to the Pothole Mitigation Program, SCDOT may require corrective action within seven (7) days or within a shorter timeframe if necessary for public safety. If the Permittee fails to complete corrective action within the timeframe directed by SCDOT, or if SCDOT determines that immediate remedial action is necessary for safety or to prevent further damage to the right of way, SCDOT may perform remedial work or cause remedial work to be performed. Upon performance of remedial work by SCDOT, the Permittee shall reimburse SCDOT for the remedial expenses.

Any material recovered during remedial work will be maintained in the possession of SCDOT for no more than thirty (30) days, during which the material may be claimed by the owner upon payment of the remedial expenses incurred by SCDOT. If the material is not claimed during the thirty (30) days, it is declared abandoned, becomes the property of SCDOT, and may be disposed of through sale or in any manner SCDOT considers appropriate. Even if the owner does not recover the material, the owner remains liable to SCDOT for the expenses incurred for remediation and storage of the material.

G14. Financial Assurance (Bond/Letter of Credit). To protect the public interest and SCDOT facilities, SCDOT may require the Permittee to provide financial assurance in a form acceptable to SCDOT (including a performance bond, maintenance bond, or irrevocable letter of credit) as a condition of issuance, continuation, or closeout of this permit. Financial assurance may be required based on factors including, but not limited to: the scope and risk of the Work; anticipated impacts to traffic or SCDOT facilities; the need to ensure restoration; prior noncompliance by the Permittee; or other project-specific circumstances. If required, SCDOT may withhold issuance/authorization to proceed until financial assurance is received.

G15. Authorization to Perform Work; Expiration. Unless otherwise stated on the permit or in the Special Conditions, the Authorization to Perform Work expires one year from the date of issuance. Work not completed within the authorized period shall not continue or begin after expiration unless SCDOT grants an extension in writing or issues a new permit authorization. Expiration of the Authorization to Perform Work does not, by itself, terminate SCDOT's permit record or relieve the Permittee of any ongoing obligations related to the approved encroachment, including maintenance, restoration, relocation, removal, or compliance with permit conditions.

Permittee's Name: NewberyCountyCOScottSSawyer

User/Email: scdotapi

Electronically Acknowledged By: *No Mapped Address*

Date: 03/14/2025

Date Received: 03/14/2025

Permit Number: 200151220

Date Issued: 09/11/2026

Date Approved: 09/11/2026

Approved By: Ryan Balentine

Encroachment Permit Number: **200151220**

These Special Provisions are part of the approved encroachment permit package and must be kept with the approved permit and approved plans at the work site. The Permittee is responsible for ensuring that anyone performing work under the permit has access to and complies with all approved permit documents while on site.

Provision No. Special Provision

1103

Before beginning construction within SCDOT right of way, the Permittee shall provide SCDOT with the name, phone number, email address, and other required contact information for the contractor, subcontractor, field supervisor, or other responsible party performing the Work.

1104

When required by SCDOT, the Permittee shall provide a responsible field representative on site while Work is being performed within SCDOT right of way. The representative shall have authority to direct construction activities, coordinate with SCDOT, correct deficiencies, adjust traffic control, and respond to permit, safety, inspection, or field issues identified by SCDOT. The Permittee shall provide the representative's contact information and any required emergency contact information to SCDOT before Work begins and shall keep the information current for the duration of the Work.

1500

Upon completion of the permitted Work, the Permittee shall request a final inspection from SCDOT. After the final inspection request, the Permittee shall allow SCDOT sufficient time to inspect the Work, identify any punch list items, and issue release or closeout documentation as applicable. Unless otherwise directed by SCDOT, punch list items, release documents, or closeout documentation may take up to three business weeks to be provided.

1501

The permitted entrance, access point, roadway improvement, gate, or other facility shall not be opened to public use or active operation until all required supporting improvements are complete, SCDOT has performed a final inspection, and SCDOT has authorized the facility to be opened.

1701

The Permittee shall maintain safe and accessible pedestrian routes, sidewalks, crossings, curb ramps, and pedestrian access paths affected by the permitted Work unless otherwise approved by SCDOT. When an existing pedestrian route is closed or restricted, the Permittee shall provide an alternate pedestrian route, signing, barricades, channelization, and other pedestrian traffic control measures as required by SCDOT and the approved traffic control plan.

3401

Sidewalks, curb ramps, detectable warning surfaces, raised detectable warning pads, pedestrian access routes, pedestrian crossings, sidewalks through driveway radii, and related pedestrian facilities or appurtenances damaged, disturbed, removed, modified, or constructed as part of the permitted Work shall be restored or constructed in accordance with applicable SCDOT standard drawings, standards, approved plans, and Americans with Disabilities Act requirements.

3402

Sidewalk forms, curb ramp forms, and related pedestrian facility forms shall be inspected by SCDOT before concrete is placed when required by SCDOT. The Permittee shall provide at least three business days' advance notice to SCDOT and shall not place concrete until the forms have been inspected and accepted or otherwise approved by SCDOT.

3403

Sidewalk removed as part of the permitted Work shall be removed for the full width of the affected sidewalk panel or as otherwise approved by SCDOT. Removed sidewalk material shall be disposed of outside SCDOT right of way. Replacement sidewalk shall be constructed in accordance with applicable SCDOT standards, approved plans, and ADA requirements.

3404

Sidewalk, curb and gutter, or related concrete appurtenances removed, damaged, or disturbed by the permitted Work shall be replaced from joint to joint unless otherwise approved by SCDOT. Replacement shall conform to applicable SCDOT standards, approved plans, and ADA requirements where applicable.

3406	Sidewalks, pedestrian facilities, or related appurtenances installed under this permit shall be maintained by the Permittee, municipality, property owner, or other entity identified in the approved permit documents or maintenance agreement. Maintenance shall be performed at no cost to SCDOT unless otherwise agreed in writing by SCDOT.
3407	Sidewalk removed or damaged by the permitted Work shall be repaired as soon as practical after completion of the related Work. While awaiting final repair, the affected sidewalk area shall be secured, barricaded, and protected in accordance with applicable pedestrian traffic control requirements. If repair cannot be completed within the time period required by SCDOT, the Permittee shall notify SCDOT and maintain approved pedestrian protection until repair is complete.
3408	Sidewalk installation shall be constructed to maintain existing or approved drainage patterns. The sidewalk shall be flush with the adjacent shoulder where required by SCDOT or otherwise constructed with drainage openings, inlets, underdrains, or other SCDOT-approved drainage accommodations as needed to prevent ponding or obstruction of stormwater flow. The permitted Work shall not cause water to pond in the shoulder, roadway, driveway, sidewalk, ditch line, or right of way.
3409	Sidewalk concrete shall include contraction joints, expansion joints, cold joints, and joint filler as required by applicable SCDOT standards, approved plans, or as directed by SCDOT. Joints shall be installed to control cracking and maintain an acceptable sidewalk surface.
3511	The permitted Work shall not increase, concentrate, redirect, or discharge stormwater runoff to SCDOT right of way, roadway, shoulder, ditch, drainage structure, or other SCDOT facility unless specifically approved by SCDOT. The Permittee shall provide drainage improvements, stormwater controls, grading revisions, or other corrective measures required by SCDOT to prevent adverse drainage impacts.
3512	The permitted Work shall not create ponding or standing water within the roadway, shoulder, driveway apron, sidewalk, ditch line, gutter line, drainage structure, or SCDOT right of way. The Permittee shall provide grading, drainage adjustments, pipe installation, swales, inlets, stabilization, or other corrective measures required by SCDOT to maintain positive drainage.
4200	The Permittee shall stabilize all disturbed areas in accordance with applicable SCDOT standards, specifications, vegetation management requirements, approved plans, and any applicable erosion control requirements. Topsoil, select material, seeding, grassing, sod, or other stabilization shall be placed as required by SCDOT. Disturbed areas shall be stabilized and maintained until sufficient vegetative cover or other approved stabilization is achieved to prevent erosion.
4300	The Permittee shall install, maintain, adjust, and remove erosion prevention and sediment control measures as required by SCDOT, the approved plans, applicable permits, and applicable erosion control requirements. Erosion and sediment control measures shall be used to minimize sediment movement, protect undisturbed areas, and prevent sediment from leaving the work area or entering SCDOT drainage features, roadway areas, sidewalks, shoulders, ditches, or right of way.
4602	Debris, waste material, removed materials, excess material, and construction-related refuse generated by the permitted Work shall be removed from SCDOT right of way and disposed of properly. Debris shall be removed within the time period required by SCDOT and before final acceptance or closeout unless otherwise approved by SCDOT.
5000	The Permittee shall furnish, install, maintain, and remove all traffic control devices, signs, lighting, flagging operations, and related traffic control measures required for the permitted Work. Traffic control shall comply with the approved traffic control plan, MUTCD, and applicable SCDOT requirements.
5003	Personnel working within SCDOT right of way and exposed to moving traffic, construction equipment, or other work-zone hazards shall wear high-visibility safety apparel meeting current applicable ANSI/ISEA, MUTCD, OSHA, and SCDOT requirements.

Provision No. Special Provision

1002

Field changes, plan revisions, permit modifications, amendments, or changes to the approved Work shall be submitted to SCDOT in writing with revised plans or supporting documentation as required by SCDOT. No change shall be constructed or implemented within SCDOT right of way until written approval is provided by SCDOT. The Permittee shall allow up to two weeks for SCDOT review and approval unless otherwise directed by SCDOT. Work performed without written approval may be subject to removal, correction, modification, or additional review at the Permittee's expense.

1007

When required by SCDOT, work within SCDOT right of way shall be performed by a contractor qualified, approved, or prequalified to perform the applicable work in accordance with SCDOT requirements. This may include roadway widening, paving, drainage, guardrail, traffic signal, pavement marking, structural, utility, or other work requiring specialized qualifications. The Permittee shall provide contractor contact information and qualification documentation when requested by SCDOT. Work shall comply with applicable SCDOT standards, specifications, approved plans, and permit requirements.

1100

When required by SCDOT, the Permittee shall schedule and participate in a preconstruction meeting with SCDOT prior to beginning Work in SCDOT right of way. The Permittee shall provide SCDOT an opportunity to attend any preconstruction meetings related to the permitted Work.

1405

When required by SCDOT, the Permittee shall submit as-built plans, drawings, exhibits, or other documentation showing the completed location, alignment, elevation, dimensions, materials, and features constructed within SCDOT right of way. Required as-built documentation shall be submitted after construction is complete and before final acceptance, permit closeout, or release of any bond, letter of credit, or other surety as applicable.

1700

The Permittee shall maintain reasonable access to existing residential properties, commercial businesses, driveways, entrances, parking areas, and other affected access points throughout the permitted Work unless otherwise approved by SCDOT. Any temporary access restriction, closure, detour, or access modification shall be coordinated with SCDOT and affected property owners or occupants as required by SCDOT.

2301

Excavated material from trenching or excavation shall be placed on the side of the trench away from the traveled roadway and shall not be placed within 15 feet of the edge of pavement unless otherwise approved by SCDOT. Excavated material shall be placed and maintained so that it does not obstruct traffic, drainage, pedestrian access, or visibility.

3109

Existing residential, commercial, subdivision, field, or other access connections affected by the permitted Work shall be tied in, reconstructed, restored, or modified in accordance with the approved plans, applicable SCDOT access management requirements, driveway classification, and current SCDOT standards. Tie-ins shall provide a smooth, safe, stable, and drainable transition acceptable to SCDOT.

3500

Drop inlets and catch basins installed as part of the permitted Work shall be constructed, installed, and sealed in accordance with applicable SCDOT standards and details. Each inlet or catch basin shall be installed at a location and elevation acceptable to SCDOT to collect surface water and maintain proper drainage. The top of frame and grate shall be set at an elevation that does not obstruct roadway, shoulder, gutter, or ditch drainage. SCDOT may require field verification of inlet, catch basin, grate, frame, location, or elevation before installation.

3501

Existing crossline pipes, driveway pipes, and drainage structures within the limits of the permitted Work shall be located and protected prior to beginning construction. Drainage pipe installed or replaced as part of the permitted Work shall be new, undamaged pipe of the size, type, grade, slope, and orientation approved by SCDOT. Pipe installation shall maintain proper drainage and shall be inspected by SCDOT before the pipe is covered when required by SCDOT. Exposed pipe ends and disturbed areas shall be stabilized with riprap, cover, sod, or other treatment approved by SCDOT.

4101

Any shoulder sod or shoulder area disturbed by the permitted Work shall be replaced, reshaped, compacted, and restored to a condition acceptable to SCDOT. Shoulder restoration shall match the existing cross section or the approved final cross section, shall maintain proper drainage, and shall not create a low shoulder or other roadside hazard.

4102	Ditches, shoulders, and slopes disturbed by the permitted Work shall be maintained during construction and restored to the original grade and cross section, or to the approved final grade and cross section, as directed by SCDOT. Restoration shall provide positive drainage and shall not create ponding, erosion, sediment buildup, or a roadside hazard. Drainage pipes affected by the Work shall be kept clear of sediment, debris, and obstructions.
4103	Slopes constructed, disturbed, or restored within SCDOT right of way shall be shaped, graded, compacted, stabilized, and maintained in accordance with the approved plans, applicable SCDOT standards, and as directed by SCDOT. Slopes shall not be constructed steeper than the slope approved by SCDOT and shall provide a stable roadside condition acceptable to SCDOT.
4201	The Permittee shall monitor restored and stabilized areas during and after construction, including grassed areas, ditches, shoulders, slopes, drainage structures, and disturbed right-of-way areas, until acceptable vegetative cover or other approved stabilization is achieved and the restored areas are accepted by SCDOT.
4601	The Permittee shall immediately remove and properly dispose of mud, debris, loose stone, trash, material tracking, or other traffic hazards that are washed, spilled, tracked, or deposited onto the roadway, shoulder, sidewalk, drainage feature, or other SCDOT right of way as a result of the permitted Work.
4603	The Permittee shall keep the roadway, shoulder, sidewalk, and other affected portions of SCDOT right of way swept, cleaned, and free of mud, sediment, stone, debris, and material tracking caused by the permitted Work. Sweeping, cleanup, and tracking-control measures shall be performed as needed or as directed by SCDOT.
4702	Beautified areas, landscaping, street trees, irrigation, plantings, decorative features, non-standard materials, and related improvements installed or maintained within SCDOT right of way shall be maintained by the Permittee, property owner, municipality, agreement holder, or other responsible party identified in the approved permit documents, maintenance letter, maintenance partnership agreement, or maintenance agreement. Maintenance shall be performed at no cost to SCDOT unless otherwise agreed to in writing by SCDOT. If required maintenance is not performed, lapses, or is discontinued, SCDOT may require the responsible party to remove, modify, replace, or restore the beautified area or related improvements under SCDOT supervision and at no cost to SCDOT.
5100	Sidewalk work or related pedestrian facility work performed within one foot of the travel lane, or within any other distance requiring traffic control as determined by SCDOT, shall not begin until the required lane closure, traffic control, or approved typical application is in place.
5102	Work, equipment, materials, or personnel located within the distance from a travel lane requiring lane closure, flagging, tapers, or other traffic control as determined by SCDOT shall not be performed or placed until the required traffic control measures are in place. Lane closures, flagging operations, tapers, and related traffic control shall comply with the approved traffic control plan, MUTCD, and applicable SCDOT requirements.
5601	Vehicles, equipment, trailers, materials, supplies, debris, and personal vehicles associated with the permitted Work shall not be parked, stored, staged, or stockpiled within SCDOT right of way unless specifically approved by SCDOT. Approved parking, staging, storage, or stockpile areas shall comply with the approved plans, approved traffic control plan, roadside safety requirements, drainage requirements, and any conditions required by SCDOT.
6208	Stop bars required as part of the permitted Work shall be installed within SCDOT right of way at the location, width, material, and layout approved by SCDOT. Where no crosswalk is present, stop bar placement shall be based on applicable SCDOT standards, approved plans, access management requirements, and MUTCD requirements. Unless otherwise approved by SCDOT, stop bars shall be installed using thermoplastic or other pavement marking material approved by SCDOT.
6301	Existing SCDOT signs, sign supports, or related sign appurtenances removed, relocated, damaged, or disturbed by the permitted Work shall be replaced, reset, or restored as required by SCDOT. Replacement signs and supports shall comply with applicable SCDOT and MUTCD requirements.

INTENTIONALLY BLANK

VOLUNTARY DONATION OF PROPERTY

WAIVER OF ACQUISITION RIGHTS AND BENEFITS UNDER THE FINAL GOVERNMENT-WIDE RULE IMPLEMENTING THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970, AS AMENDED.

I, Marty McMurtry have been informed of my rights to receive just
(Owner's Name)
compensation for the portion of my property which will be used by Newberry County
(Unit of local government)

to construct Subertown Road/Gary Street Sidewalk in the Town of Whitmire area.
(Project name) (Project area)

A letter dated February 7, 2025 was received by me outlining the reasons for the project and my rights under the Uniform Act including:

- ☐ My right to have the property appraised at no cost to me;
- ☐ My right to accompany the appraiser during this process; and
- ☐ My right to receive Just Compensation based upon the appraisal or valuation process.

I have received a copy of "When a Public Agency is Interested in Acquiring an Easement" and was contacted by a representative of

Newberry County on February 7, 2025 to discuss any concerns I might have
(Unit of general/local government) (date)

regarding the information I have been provided. I have received a copy of the plat which identifies my property and understand which portion of my land will be impacted by Newberry County
(Unit of general local government)

I have determined that is in my best interest to waive all acquisition rights and benefits accruing to me under the Uniform Act, and prefer to donate an easement or donate my land as described below.

Easement or Land
Description

Donation of easement to construct sidewalk

Let it be known that by signature hereon, I freely and without duress waive any and all rights accruing to me for a purchase under the Uniform Act.

Signature of Owner(s)

Name of Owner(s)

Marty McMurtry

Owner(s) Address

134 Gary Street

Whitmire, SC 29178

Plat # TMS #314-1-20-50

Date

Feb. 7-25

INTENTIONALLY BLANK

APPENDIX A

Davis-Bacon Wage Determination – Highway SC20260040

INTENTIONALLY BLANK

"General Decision Number: SC20260040 05/18/2026

State: South Carolina

Construction Types: Highway

Counties: South Carolina Counties of
Allendale, Bamberg, Barnwell, Beaufort,
Colleton, Georgetown, Hampton, Jasper,
Newberry, Orangeburg and Williamsburg

Excludes Savannah River Site in Allendale and Barnwell Counties

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SUSC2011-038 09/15/2011

	Rates	Fringes
TRUCK DRIVER (TRACTOR HAUL TRUCK).....	\$ 16.25	0.00
TRUCK DRIVER (SINGLE AXLE, INCLUDES PILOT CAR).....	\$ 12.04	0.00
TRUCK DRIVER (LOWBOY TRUCK).....	\$ 14.43	0.00
TRUCK DRIVER (DUMP TRUCK).....	\$ 12.00	0.00
POWER EQUIPMENT OPERATOR: PAVER (COLLETON, GEORGETOWN, HAMPTON, JASPER).....	\$ 13.67	0.00
POWER EQUIPMENT OPERATOR: PAVER (BEAUFORT).....	\$ 14.96	0.00
POWER EQUIPMENT OPERATOR: PAVER (ALLENDALE, BAMBERG, BARNWELL, NEWBERRY, ORANGEBURG, WILLIAMSBURG).....	\$ 15.01	0.00
POWER EQUIPMENT OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE (GEORGETOWN, HAMPTON, JASPER, WILLIAMSBURG).....	\$ 17.23	0.00
POWER EQUIPMENT OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE (COLLETON).....	\$ 17.78	0.00
POWER EQUIPMENT OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE (BEAUFORT).....	\$ 15.20	0.00
POWER EQUIPMENT OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE (ALLENDALE, BAMBERG, BARNWELL, NEWBERRY, ORANGEBURG).....	\$ 17.56	0.00
POWER EQUIPMENT OPERATOR: (TRACTOR).....	\$ 13.26	0.00
POWER EQUIPMENT OPERATOR: (SCREED).....	\$ 13.01	0.00

POWER EQUIPMENT OPERATOR: (ROLLER).....	\$ 12.76	0.00
POWER EQUIPMENT OPERATOR: (MILLING MACHINE).....	\$ 18.83	0.00
POWER EQUIPMENT OPERATOR: (MECHANIC).....	\$ 18.22	0.00
POWER EQUIPMENT OPERATOR: (LOADER (FRONT END)).....	\$ 15.51	0.00
POWER EQUIPMENT OPERATOR: (GRADER/BLADE).....	\$ 16.62	0.00
POWER EQUIPMENT OPERATOR: (CRANE).....	\$ 16.62	0.00
POWER EQUIPMENT OPERATOR: (BULLDOZER).....	\$ 20.12	0.00
LABORER, TRAFFIC CONTROL-CONE SETTER (BEAUFORT, COLLETON, GEORGETOWN, HAMPTON, JASPER, WILLIAMSBURG).....	\$ 12.84	0.00
LABORER, TRAFFIC CONTROL-CONE SETTER (ALLENDAL BAMBER, BARNWELL, NEWBERRY, ORANGEBURG).....	\$ 12.98	0.00
LABORER, COMMON OR GENERAL (WILLIAMSBURG).....	\$ 10.01	0.00
LABORER, COMMON OR GENERAL (ORANGEBURG).....	\$ 12.63	0.00
LABORER, COMMON OR GENERAL (NEWBERRY, ALLENDAL BAMBERG, BARNWELL).....	\$ 11.82	0.00
LABORER, COMMON OR GENERAL (GEORGETOWN, HAMPTON, JASPER).....	\$ 10.07	0.00
LABORER, COMMON OR GENERAL (COLLETON).....	\$ 10.16	0.00
LABORER, COMMON OR GENERAL (BEAUFORT).....	\$ 10.15	0.00
LABORER (TRAFFIC CONTROL-FLAGGER).....	\$ 11.68	0.00
LABORER (PIPELAYER).....	\$ 13.87	0.00
LABORER (LUTEMAN).....	\$ 11.71	0.00
LABORER (COLLETON).....	\$ 10.16	0.00
LABORER (ASPHALT, INCLUDES ASPHALT DISTRIBUTOR, RAKER, SHOVELER, AND SPREADER).....	\$ 10.96	0.00
IRONWORKER, REINFORCING.....	\$ 15.64	0.00
CEMENT MASON/CONCRETE FINISHER.....	\$ 14.11	0.00
CARPENTER (FORM WORK ONLY).....	\$ 14.47	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than SU , UAVG , SA , or SC denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes

over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The SU identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

SU wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The SA identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications

and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the SA identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

=====

END OF GENERAL DECISION

"

APPENDIX B
SECTION 3 FORMS

INTENTIONALLY BLANK

Section 3 Information Sheet for Contractors/Businesses

What is Section 3?

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968. The purpose of Section 3 is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State, and local laws and regulation, be directed to low- and very low-income persons, particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

What is a Section 3 worker?

Section 3 workers are:

- Any worker who currently or when hired (within the past five years) is below documented to fit at least one of the below categories:
 - The worker's income for the previous or annualized calendar year is below the income limit established by HUD; or
 - The worker is employed by a Section 3 business concern
 - The worker is a YouthBuild participant

What is a Targeted Section 3 Worker

- A worker employed by a Section 3 business concern; or
- A worker who currently fits or when hired (within the past 5 years) is documented to fit at least one of the following categories:
 - Living within the service area or the neighborhood of the project, meaning; or
 - A YouthBuild participant

What is a Section 3 Business Concern?

A Section 3 Business Concern meets one of the following criteria:

- Is 51 percent or more owned and controlled by low- or very low-income persons;
- Over 75 percent of the labor hours performed for the business over the prior 3-month period were performed by Section 3 workers; or
- Is at least 51 percent owned and controlled by current public housing residents; residents who currently live in Section 8-assisted housing

What types of economic opportunities should be made available under Section 3?

- Job training
- Employment
- Contracts

Examples of Opportunities include:

- | | | |
|------------------------|-------------------------|-----------------------|
| • Accounting | • Electrical | • Marketing |
| • Architecture | • Elevator Construction | • Painting |
| • Appliance repair | • Engineering | • Payroll Photography |
| • Bookkeeping | • Fencing | • Plastering |
| • Bricklaying | • Florists | • Plumbing |
| • Carpentry | • Heating | • Printing Purchasing |
| • Carpet Installation | • Iron Works | • Research |
| • Catering | • Janitorial | • Surveying |
| • Cement/Masonry | • Landscaping | • Tile setting |
| • Computer/Information | • Machine | • Transportation |
| • Demolition | • Operation | • Word processing |
| • Drywall | • Manufacturing | |

Who receives priority under Section 3?

For training and employment:

- Persons in public and assisted housing
- Persons in the area where the HUD financial assistance is spent
- Participants in HUD Youthbuild programs
- Homeless persons

For contracting:

- Businesses that meet the definition of a Section 3 business concern

How can businesses find Section 3 workers to work for them?

Businesses can recruit Section 3 residents in public housing developments and in the neighborhoods where the HUD assistance is being spent. Effective ways of informing residents about available training and job opportunities are:

- Contacting resident organizations, local community development and employment agencies
- Distributing flyers
- Posting signs
- Placing ads in local newspapers

Are recipients, contractors, and subcontractors required to provide long-term employment opportunities, not simply seasonal or temporary employment?

Recipients are required, to the greatest extent feasible, to provide all types of employment opportunities to low and very low-income persons, including permanent employment and long-term jobs.

Grantees and contractors are encouraged to have Section 3 workers make up at least 25 percent and targeted workers make up 5 percent of their permanent, full-time staff.

A Section 3 worker who has been employed for 5 years may no longer be counted towards meeting the 25 percent for section 3 and 5 percent for targeted section 3 worker requirements. This encourages recipients to continue hiring Section 3 and targeted Section 3 workers when employment opportunities are available.

What if it appears an entity is not complying with Section 3?

There is a complaint process. Section 3 and targeted workers, business concerns, or a representative for either may file a complaint if it seems a recipient is violating Section 3 requirements are being on a HUD-funded project.

Will HUD require compliance?

Yes. HUD monitors the performance of contractors, reviews annual reports from recipients, and investigates complaints. HUD also examines employment and contract records for evidence that recipients are training and employing Section 3 workers and awarding contracts to Section 3 business concerns.

Section 3 Business Concern Self-Certification

BASIC INFORMATION

1. Company Name: _____
2. Company Address: _____
 City _____ State _____ Zip _____ County _____
3. Telephone Number: _____ Fax Number: _____
 Email address: _____
4. Contractor's License: Class ☐A ☐B ☐C ☐N/A License Number: _____
5. Business License _____ Number Federal ID Number _____
6. Type of Business: _____

TYPES OF SECTION 3 BUSINESS ENTERPRISES

Please check "Yes" or "No". If you answer "YES" to one or more of the following questions, you may designate your company as a Section 3 Business Enterprise.

1. 51% or more of your business is owned by a Section 3 workers*; or
☐ Yes ☐ No

Attach list of Section 3 owners and income certifications

2. Over 75% of the labor hours over the previous 3-month period are performed by Section 3 workers; or
☐ Yes ☐ No

Attach list of employees, Section 3 employees, and self certifications

3. At least 51% owned and controlled by current residents of public housing or Section 8 assisted housing.
☐ Yes ☐ No

Attach list of subcontracted businesses, types and amounts

VERIFICATION - The company hereby agrees to provide, upon request, documents verifying the information provided on this form.

I declare and affirm under penalty of law that the statements made herein are true and accurate to the best of my knowledge. I understand that falsifying information and incomplete statements will disqualify certification status.

Signature of Business Owner or Authorized Representative: _____

Signature: Date: _____

Attested by: Date: _____

***Section 3 Worker and Targeted Section 3 Worker definitions can be found in the "Section 3 Definitions" document.**

BIDDER'S SECTION 3 ESTIMATED NEW HIRES

NOTE: This form must be filled out by the contractor and is used to determine if any new hires will be needed as part of the project and if so, if any will be filled with Section 3 residents.

Job Category	Total Estimated Positions Needed (for this project)	No. Positions Occupied by Permanent Employees (for this project)	Number of Positions Not Occupied (for this project)	Number of Positions to be Filled with Section 3 Residents (for this project)
Officer/Supervisors				
Professionals				
Technical				
Hsq. Sales/Rental Mgmt.				
Office/Clerical				
Service Workers				
Others				
TRADE:				
Journeyman				
Apprentices				
Trainees				
Others				

Section 3 Resident Definition:

Individual residing in a public housing project or within the non-metropolitan county in which the project is located and whose income does not exceed 80% of the higher of the median income, adjusted by family size, for the county of residence or the non-metropolitan area of the state.

 Company

 Project Title

 CDBG Grant Number

 Name of Person Completing Form

 Date

BIDDER'S PROPOSED SECTION 3 CONTRACT/SUBCONTRACTS

Type of Contract (Business or Profession)	Total No.	Total Approx. Dollar Amt.	Estimated No. of Contracts to Section 3 Businesses	Est. Dollar Amt. to Section 3 Businesses

Section 3 Business Concern

- 1. A business that is 51% or more owned by section 3 residents, or**
- 2. A business whose permanent full time work force is at least 30% section 3 residents or,**
- 3. A business which contracts a dollar amount of all subcontracts with businesses as defined in numbers 1 and 2 above.**

 Company

 Project Name

 Project Number

 Person Completing Form

 Date

Section 3 Labor Hours Tracking Form

	Number	Percentage
Total Labor Hours	0	
Section 3 Worker Hours	0	
Target Section 3 Worker Hours	0	

Company.

Notes

All non-Section 3 worker labor hours for each company can be aggregated using "Non-Section 3 Workers" for the worker name. All Section 3 and Targeted Section 3 workers must be listed individually by name.

Only list the payroll numbers for weeks where work occurred. Do not include "no work" payrolls.

[illegible]

APPENDIX C
OTHER REQUIRED FORMS

INTENTIONALLY BLANK

SOUTH CAROLINA ILLEGAL IMMIGRATION REFORM ACT

CONTRACTOR CERTIFICATION

In accordance with the requirements of the South Carolina Illegal Immigration Reform Act, Contractor Name ("Contractor") hereby certifies that it is currently in compliance with the requirements of Title 8, Chapter 14 of the S.C. Code Annotated and will remain in compliance with such requirements throughout the term of its contract with Name Of Owner ("Owner").

Contractor hereby acknowledges that in order to comply with requirements of S.C. Code Annotated Section 8-14-20(B), it will:

1. Register and participate in the federal work authorization program (E-Verify) to verify the employment authorization of all new employees; and require agreement from its subcontractors, and through the subcontractors, the sub-subcontractors, to register and participate in the federal verification the employment authorization of all new employees.

Contractor agrees to provide to Owner any documentation required to establish the applicability of the South Carolina Illegal Immigration Reform Act to the Contractor, subcontractor, or sub-subcontractor. Contractor further agrees that it will provide Owner with any documentation required to establish that the Contractor and any subcontractors or sub-subcontractors are in compliance with the requirements of Title 8, Chapter 14 of the S.C. Code Annotated.

Date: _____

By: _____

Title: _____

INTENTIONALLY BLANK

10/16

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
INELIGIBILITY AND VOLUNTARY EXCLUSION LOWER TIER COVERED TRANSACTIONS**

This certification is required by the regulations implementing Executive Orders 12549 and 12689, Debarment and Suspension, and 2 CFR Part 200, Participants' responsibilities.)

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS BELOW)

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principles are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Grant Number: _____

Name of Participant: _____

Address of Participant: _____

Name and Title of Authorized Representative	Signature	Date
1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below. 2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 4. The terms "covered transaction", "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "proposal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Orders 12549 and 12689. 5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transactions", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions. 7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may check the System for Award Management (SAM). 8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings. 9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.		