Healthy People. Healthy Communities.

General Coastal Zone Consistency Determination

To:	Stephen Williams, Georgetown County
From:	Holli Dawn Martin, OCRM Coastal Zone Consistency Section HDM
Project Name:	Partridge Lane
Site Location:	Partridge Lane at Waverly Road, Georgetown County, SC
Ref #:	HNF-YT2Z-Z3FV7; GCZC-2017-002
Date:	August 10, 2018

The staff of the Office of Ocean and Coastal Resource Management (OCRM) reviewed the above referenced Coastal Zone Consistency project request for NPDES Stormwater permit associated with the paving of existing gravel roadway. The total area of disturbance will be 0.45 acre project site.

We hereby certify the above referenced project meets the minimum standards for General Coastal Zone Consistency for Individual Residential Lots and Small Projects under GCZC-2017-002 subject to the following conditions and the policies of the South Carolina Coastal Zone Management Program provided the provided the following conditions are included in the permit and adhered to by the applicant.

Conditions for Minor Impact Projects

1. This GCZC does not preclude the applicant from obtaining necessary local, state and/or federal approvals for the development prior to work beginning.

2. This GCZC is conditioned upon the proper use of Best Management Practices (BMPs), which must be installed, inspected and maintained to retain sediment onsite and to protect any adjacent or downstream critical area, wetlands and waters through the life of the project. Upon completion of construction activities, all disturbed (includes undeveloped) areas, including those impacted for access, must be immediately stabilized. Once stabilization has occurred, all temporary construction BMPs must be properly removed and discarded.

3. Projects that are part of a LCP are authorized/granted coverage provided the consistency determination review for the development including its stormwater management drainage system has been approved under a previously authorized NPDES CGP Land Disturbance Permit (clearing and grading or site development). The development infrastructure, and site layout deemed consistent under the referenced NPDES Land Disturbance Permit's Stormwater Pollution Prevention Plan (SWPPP) remains unchanged from the time of approval as referenced under Section 2.2.2.A of the current NPDES General Permit For Stormwater Discharges From Construction Activities, as well as, compliant with the S.C. Stormwater

Management and Sediment Reduction Regulations (26 S.C. Code Ann. Regs. 72-300) and Chapter III, Section XIII, A, E, and D of the SCCZMP.

4. The project, as applicable, must be compliant with any MOA or Restrictive Covenants/Recorded plats for the project associated with previous Coastal Zone Consistency Determinations of any respective Bureau Permit. Proof of compliance must be included with the request narrative and shown on the lot construction plan sheet.

5. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work, the applicant must notify the State Historic Preservation Office (SHPO) and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

6. The applicant must continue to adhere to all conditions of any Coastal Zone Consistency Determinations of respective Bureau permits.

7. Project development must not result in adverse impacts through nonpoint stormwater runoff and/or point source water discharge on adjacent lands.

8. For land disturbance stabilization, the applicant is strongly encouraged to utilize ground cover, shrub and canopy species native to the coast of South Carolina in any landscaping plans to recover some of the lost ecosystem functions such as water and air quality protection, mitigation of heat island effects and restoration of coastal zone habitat. Low Impact Development and green infrastructure practices are also strongly recommended.

9. Sediment, erosion and water quality controls required by the current NPDES General Permit for Stormwater Discharges from Large and Small Construction Activities and the S.C. Stormwater Management and Sediment Reduction Regulations (26 S.C. Code Ann. Regs. 72-300, as amended, are satisfied by the project design and are correctly installed and maintained. Additional water quality measures specific to the eight coastal counties, as established in Chapter III, Section XIII, A, E, and D of the SCCZMP, as refined, being satisfied by the project design are applicable. Storage for these activities must be appropriate for the specific site

10) Sewage treatment facilities and transmission systems in the coastal zone must meet applicable Federal, State and local construction and water quality standards.

11) For Sewage Treatment, the project must be consistent with designated 208 Areawide Waste Treatment Management implementation agencies and other agencies with responsibility for implementing comprehensive plans affecting sewage treatment, to ensure that proposed projects are compatible with growth and development plans and that alternative locations for sewage treatment facilities are considered.

12. Minor Project Impacts are not authorized/granted coverage in these instances:

a. When the proposed construction activity is located in any areas identified as "Areas of Special Resource Significance" as detailed in Chapter III, Section XII of the SCCZMP, as refined, unless the area has been previously developed or concerns are negated by on-site characteristics. Areas of Special Resource Significance include (1) Barrier Islands, (2) Dune Areas (outside of the critical area), (3) Navigation Channels, (4) Public Open Spaces (5) Wetlands or areas known to be subject to hazards, including but not limited flooding and contaminated sites. Barrier Islands identified in this condition include undeveloped areas of barrier islands only. The development or redevelopment of single family residential lots are not included in this definition and are exempt. Public Open Spaces identified in this condition include recreationally open areas such as local parks. State Parks are currently identified as Geographic Areas of Particular Concern (GAPC) and are covered therein.

b. When the proposed project may impacts areas identified as GAPCs as detailed in Chapter IV of the SCCZMP: Areas of Unique Natural Resource Value (1) Heritage Trust Sites (2) State Wildlife Preserves (3) State Parks (4) Scenic Rivers (5) Marine and Estuarine Sanctuaries (6) Shellfish Areas (7) Groundwater Resources (8) and Threatened and Endangered Species); Activities or Facilities Dependent on Coastal Location (1) State Ports (2) Navigation Channels (3) and Mining Operations; Areas of Special Historic, Archaeological or Cultural Significance (1) special historic (2) archaeological, or (3) culturally significant sites.

September 4, 2018

STEPHEN WILLIAMS
GEORGETOWN COUNTY
2236 BROWNS FERRY ROAD
GEORGETOWN, SC 29440

RE: **Stormwater Construction – Coastal Automatic Permit Coverage Notification**
PARTRIDGE LANE, Georgetown County
Notification No.: HNG-JH4E-94Z0Q

Dear STEPHEN WILLIAMS:

Based on your Notification to the Department and certification that this project will disturb 0.5 acres or less, is not part of a Larger Common Plan (LCP) for development or sale, and is located within ½ mile of a coastal receiving water, this project qualifies for automatic coverage under the NPDES General Permit for Storm Water Discharges from Large and Small Construction Activities. As indicated in your Notification disturbed area for this site is **0.5 acres**.

Please note the following requirements of this notification:

1. **This notification is only for the activity identified in Notification No. HNG-JH4E-94Z0Q;**
2. **This notification does not constitute DHEC's approval of the stormwater management and sediment control plan. You are responsible for ensuring appropriate Best Management Practices are being used during construction activities.**
3. **You are responsible for ensuring your contractor complies with the site development plan prepared for this project.**
4. **You must obtain federal, state, or local permits that may be required for this project. In particular, if this project is located in an area of the state where a local government implements a stormwater program, such as an MS4, a permit may be required for this activity.**
5. **The Department does not regulate the placement of fill in floodplains. You must contact your local city or county official for such approvals; and**
6. **You are responsible for overall compliance with the Storm Water Management and Sediment Reduction Act of 1991, South Carolina Pollution Control Act and the Federal Clean Water Act.**

This project is subject to a Coastal Zone Consistency (CZC) determination from the Department's CZC Section and automatic permit coverage is not effective until this project has been determined consistent with the Coastal Zone Management Program (CZMP). This project may qualify for General Coastal Zone Consistency (GCZC). If needed, please visit *www.scdhec.gov/environment/ocrm/czc* for the GCZC and the GCZC request form to submit to the CZC Coordinator. If the project does not qualify for the GCZC the CZC Coordinator will inform you of other CZC process requirements.

Please note that the Department does not send a copy of this letter to any county or city building official. You must provide a copy of this letter to these agencies, as appropriate. Any future submittals to the Department for this project and/or this site, should reference this project/site name (as listed on the notification form), county, and assigned notification number **(Notification No.HNG-JH4E-94Z0Q).**

The Department may conduct periodic inspections of this site to ensure compliance with all related requirements, including LCP status. Failure to comply with the site plan resulting in discharge of sediment to Waters of the State and/or adjacent properties may subject you to applicable penalties under the S. C.

Pollution Control Act. Additional construction activities beyond the scope of this notification may require permit coverage.

If you have any questions, please call me at 843-953-7809.

Sincerely,

L. Devay Dandy, Permit Coordinator
Coastal Stormwater Permitting Section

ec: Shauna Stevens - EQC Region - **Pee Dee EA Myrtle Beach**

South Carolina Board of Health and Environmental Control
Guide to Board Review
Pursuant to S.C. Code Ann. § 44-1-60

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of $100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

I. Filing of Request for Final Review

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars ($100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
   - The grounds for amending, modifying, or rescinding the staff decision;
   - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
   - the relief requested;
   - a copy of the decision for which review is requested; and
   - mailing address, email address, if applicable, and phone number(s) at which the requestor can be contacted.
3. RFRs should be filed in person or by mail at the following address:

   South Carolina Board of Health and Environmental Control

   Attention: Clerk of the Board
   2600 Bull Street
   Columbia, South Carolina 29201

   Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).
4. The filing fee may be paid by cash, check or credit card and must be received by the 15th day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by

regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.
10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

II. Final Review Conference Scheduling

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
   - include the place, date and time of the Conference;
   - state the presentation times allowed in the Conference;
   - state evidence may be presented at the Conference;
   - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
   - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
   - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
     - Type of decision (permit, enforcement, etc.) and description of the program.
     - Parties
     - Description of facility/site
     - Applicable statutes and regulations
     - Decision and materials relied upon in the administrative record to support the staff decision.
   - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
   - Rebuttal by Department staff [15 minutes]
   - Rebuttal by Requestor(s) [10 minutes]

     Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council.. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

District 5 Encroachment Permit Review Comments

RD. / RTE. NO:	S-46	**RD. / RTE. NAME:**	Waverly Road	**APPLICATION ID:**	200059935
COUNTY:	Georgetown	**PROJECT DESCRIPTION:**	Intersection improvement		
SUBMITTAL TYPE:	Other	**SUBMITTED BY:**	Davis and Floyd		
REVIEWED BY :	Tripp Ward	**REVIEW COMPLETION DATE:**	10/3/2018, 4/10/2019	**DISTRICT:**	5

COMMENT NO.	COMMENT	RESPONSE	LOCATION OF REVISION	STATUS
The implementation of this form format is intended to expedite the review and response correspondence process. Please perform a Save As and add Response to the file name when you add your responses. Then, when ready to reply, please reciprocate the courtesy and keep the file in its original WORD (not a pdf) format when you upload it back into EPPS.				
This section is for SCDOT comment and guidance.		**This section to be completed by the Engineer of reference.**		**SCDOT ONLY**
1	The plans must be signed and sealed by a professional engineer, licensed in the state of South Carolina.	Plans signed		4
2	Provide a pavement section within the SCDOT R/W for the proposed drive to be a minimum of: a. 2” compacted Type B surface course hot mix asphalt b. 4” compacted Type B binder course hot mix asphalt c. 6” compacted GABC	Pavement design in the SCDOT R/W has been updated to: 200#/SY Type B surface course hot mix asphalt 250#/SY Type B intermediate course hot mix asphalt 600#/SY Type B base course hot mix asphalt		3

Comment Status: **1** = Comment Submitted; **2** = Unresolved; **3** = Resolved, Not Yet Implemented; **4** = Resolved as Noted; **5** = Closed

COMMENT NO.	COMMENT	RESPONSE	LOCATION OF REVISION	STATUS
		This meets the structural number required.		
3	At STA 10+32.08 plans call for a man hole. A junction box may be more appropriate. Please clarify.	Manhole used for ease of maintenance.		3
4	The 32' of 15" RCP connecting to the man hole at STA 10+32.08 appears to be encroaching onto the adjacent property. Please provide documentation showing that Georgetown County has permission from the adjacent property owner to install and maintain this section of pipe.	Drainage adjusted to move pipe off of the adjacent property.		3
5	All driveway culverts shall be installed and sealed according to SCDOT typical 714-205-01 detail 4 and 5 with an AASHTO M 315 rubber gasket seal, on proper grade to allow for positive storm water flow within the pipe and to/from adjacent pipes/cross lines.	Note added.		4
6	Add note, "The culvert inside of the SCDOT R/W is to be installed with beveled ends per SCDOT Standard Drawing 719-610-00 and sealed per SCDOT Standard Drawing 714-205-01 and cannot be covered until after an inspection by the SCDOT inspector assigned to the project at the required SCDOT preconstruction meeting."	Note added.		4
7	Add the note, "Lane closures are required for all work within one foot of the travel way. Shoulder closures are required for all work from one foot to fifteen feet from the travel way."	Noted added.		4

Comment Status: **1** = Comment Submitted; **2** = Unresolved; **3** = Resolved, Not Yet Implemented; **4** = Resolved as Noted; **5** = Closed

District 5 Encroachment Permit Review Comments

COMMENT NO.	COMMENT	RESPONSE	LOCATION OF REVISION	STATUS
8	Reference and include all applicable SCDOT standard drawings (drainage, erosion control, traffic control, etc.) on plans for all features within the SCDOT R/W.	References added.		4
9	Additional comments may follow pending plan resubmittal.	Noted.		4
10	All utility encroachments shall be submitted under a separate application.	Noted.		4
11	There can be NO WORK performed in the SCDOT R/W before an encroachment permit is issued and a preconstruction meeting has been held.	Noted.		4
12	BEFORE ANY WORK BEGINS, a preconstruction meeting will be REQUIRED at the SCDOT local office or onsite with all parties involved. Any work performed before the preconstruction meeting will have taken place without SCDOT knowledge, oversight and consent and shall be subject to removal by the applicant and/or at the applicant's expense.	Noted.		4

Comment Status: **1** = Comment Submitted; **2** = Unresolved; **3** = Resolved, Not Yet Implemented; **4** = Resolved as Noted; **5** = Closed

APP# 200059935

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2015)

APP# 222751

Contact Information

Applicant: GeorgetownCountyDepartmentofPublicServices
Street: 108 Screven Street

City: Georgetown
State: SC **Zip Code:** 29440
Phone: (843)554-8602 **Fax:** (843)747-6485
Email: jgarrison@davisfloyd.com
Contact: Joseph Garrison

Project Location

Primary County: Georgetown

County	Road Name
Georgetown	Waverly Rd (S-46)

1. Type of Encroachment: OTHER

Pave existing gravel roadway.

2. Description of Location:

Partridge Lane (Local) at Waverly Road (S-46), approximately 850 feet south of the intersection of Waverly Road (S-46) and Kings River Road (S-255).

(Attach sketch indicating roadway features such as: pavement width, shoulder width, sidewalk and curb and gutter location, significant drainage structure, north arrow, right of way width, and location of the proposed encroachment with respect to the roadway centerline and the nearest intersecting road on the State system.)

Customer Agreement

3. **The undersigned applicant hereby requests the SCDOT to permit encroachment on the SCDOT right of way as described herein. It is expressly understood that the encroachment, if and when constructed, shall be installed in accordance with the sketch attached hereto and made a part hereof. The applicant agrees to comply with and be bound by the SCDOT's "A Policy for Accommodating Utilities on Highways Rights of way", "Standard Specifications for Highway Construction", the "General Provisions" and "Special Provisions", attached hereto or made a part hereof by reference, during the installation, operation and maintenance of said encroachment within the SCDOT's Right of Way. DISCHARGES OF STORM WATER AND NON-STORM WATER: Work within State Highway right-of-way shall be conducted in compliance with all applicable requirements of the National Pollutant Discharge Elimination System (NPDES) permit(s) issued to the Department of Transportation (Department), to govern the discharge of storm water and non-storm water from its properties. Work shall also be in compliance with all other applicable Federal, State and Local laws and regulations, and with the Department's Encroachment Permits Manual and encroachment permit. The encroachment permit will not be issued until the applicant has received an NPDES construction permit from SC Department of Health and Environmental Control.**

The applicant agrees to comply with all current SCDOT Standards Specifications for Highway Construction including all Supplemental Technical Specifications. The applicant hereby further agrees, and binds his/her/its heirs, personal representatives, successors, assigns, to assume any and all liability for accidents or injuries to persons, or damage to property, including the highway, that may be caused by the construction, maintenance, use, moving or removing of the physical appurtenances contemplated herein.

Applicant's Name: Ray C. Funnye **Date:** 7-9/18

(Please print or type)

Applicant's Sig **Title:** Public Services Director

For Office Use Only

For Office Use Only

In accordance with your request and subject to all the provisions, terms, conditions, and restrictions stated in the application and the general and special provisions attached hereto, the SCDOT hereby approves your application for an encroachment permit. This permit shall become null and void unless the work contemplated herein shall have been completed prior to:

See Attached Special Provision and/or Permit Requirements

NPDES Permit Nbr:

9/6/18		4/10/19
(Date received by res. Maint. Engr.)	**(SCDOT Approval)**	**(Date)**

Application for Encroachment Permit
General Provisions

1. **DEFINITIONS: The word "Permittee" used herein shall mean the name of the person, firm, or corporation to whom this permit is addressed, his, her, its, heirs, personal representatives, successors and assigns. The word "DEPARTMENT" shall mean the South Carolina Department of Transportation.**
2. **NOTICE PRIOR TO STARTING WORK: Before starting the work contemplated herein within the limits of the highway right of way, the Department's Resident Maintenance Engineer in the county in which the proposed work is located shall be notified 24 hours in advance so that he may be present while the work is under way.**
3. **PERMIT SUBJECT TO INSPECTION: This permit shall be kept at the site of the work at all times while said work is under way and must be shown to any representative of the Department or law enforcement officer on demand.**
4. **PROTECTION OF HIGHWAY TRAFFIC: The applicant shall be responsible for the protection of the highway traffic at all times during the construction, maintenance, removing or moving of the encroachment permitted herein. Detours, barricades, warning signs and flagmen, as necessary,**
   shall be provided by and at the expense of the Permittee and shall be in accordance with the "Manual on Uniform Traffic Control Devices" (MUTCD). The work shall be planned and carried out so that there will be the least possible inconvenience to the motoring public. The Permittee agrees to observe all rules and regulations of the Department while carrying on the work contemplated herein and take all other precautions that circumstances warrant.
5. **STANDARDS OF CONSTRUCTION: All work shall conform to the Department?s standards of construction and shall be performed in a workman-like manner. The applicant shall make adequate provisions for maintaining the proper drainage of the highway as it may be affected by the encroachment permitted herein. All work shall be subject to the supervision and satisfaction of the Department.**
6. **FUTURE MOVING OF PHYSICAL APPURTENANCES: If, in the opinion of the State Highway Engineer, it should ever become necessary to move or remove the physical appurtenances, or any part thereof contemplated herein, on account of change in location of the highway, widening of the highway, or for any other sufficient reason, such moving shall be done on demand of the Department at the expense of the Permittee.**
7. **RESTORATION OF HIGHWAY FACILITIES UPON MOVING OR REMOVING OF PHYSICAL APPURTENANCES: If, and when, the physical appurtenances contemplated herein shall be moved or removed, either on the demand of the Department or at the option of the Permittee, the highway and facilities shall immediately be restored to their original condition at the expense of the Permittee.**
8. **COSTS: All work in connection with the construction, maintenance, moving or removing of the physical appurtenances contemplated herein shall be done by and at the expense of the Permittee.**
9. **ADDITIONAL PERMISSIONS:**
   (a) It is distinctly understood that this permit does not in any way grant or release any rights lawfully possessed by the abutting property owners. The Permittee shall secure any such rights, as necessary, from said abutting property owners.
   (b) The Permittee shall be responsible for obtaining all other approvals or permits necessary for installation of the encroachment from other government entities.
   (c) There shall be no excavation of soil nearer than two feet to any public utility line or appurtenant facility except with the consent of the owner thereof, or except upon special

permission of this Department after
an opportunity to be heard is given the owner of such line or appurtenant facility.

10. ADDITIONAL WORK PERFORMANCE:
(a) All crossings over the highway shall be constructed in accordance with "Specifications for Overhead Crossings of Light and Power Transmission Lines and Telegraph Lines over each other and over Highway Rights of Way in South Carolina," as approved by the Public Service Commission of South Carolina and effective as of date of this permit.
(b) All tunneling, boring, or jacking shall be done in such a way as not to disturb the highway surfacing.
(c) No pavement shall be cut unless specifically authorized herein.
(d) No excavation shall be nearer than three feet to the edge of pavement unless specifically authorized herein.
(e) Underground facilities will be located at minimum depths as defined in the "Utility Accommodations Manual" for the transmittant, generally as follows: 4 feet minimum for hazardous or dangerous transmittant, 3 feet minimum for other lines. The Department may approve shallower depths if adequate protection is provided. Such approval must be obtained in writing.
(f) Service and other small diameter pipes shall be jacked, driven, or otherwise forced underneath the pavements on any surfaced road without disturbing the pavement. The section under the highway
pavement and within a distance of three (3) feet on either side shall be continuous without joints.

11. ACCESS:
(a) Permittee is responsible for maintaining reasonable access to private driveways during construction.
(b) It is expressly provided that, with respect to any limited access highway, the Permittee shall not have or gain access from the main traveled way of the highway, or the on or off ramps to such facility, except upon approval by the Department.

12. DRIVEWAYS:
(a) The existing crown of the highway shall be continued to the outside shoulder line of the highway.
(b) If the driveway or approach is concrete pavement, the pavement shall be constructed at least 6 inches thick and with a minimum of class 2500 concrete. There shall be a bituminous expansion joint, not less than 3/4 inches in thickness, placed between the highway paving and the paving of the approach for the full width of the approach.

13. BEAUTIFICATION:
(a) All trees, plants, flowers, etc. shall be placed in accordance with the provisions specifically stipulated herein.
(b) All trees, plants, flowers, etc. shall be maintained by, and at the expense of, the Permittee and the provisions of this permit shall become null and void, if and when said Permittee ceases to maintain aid trees, plants, flowers, etc.

14. AS-BUILT PLANS:
(a) The applicant shall provide the Department with survey-quality as-built plans in accordance with the requirements set forth in the Department's "A Policy for Accommodating Utilities on Highway Rights of Way".

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	ROUTE NO.	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE		1	25

GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES
DIVISION OF PUBLIC WORKS

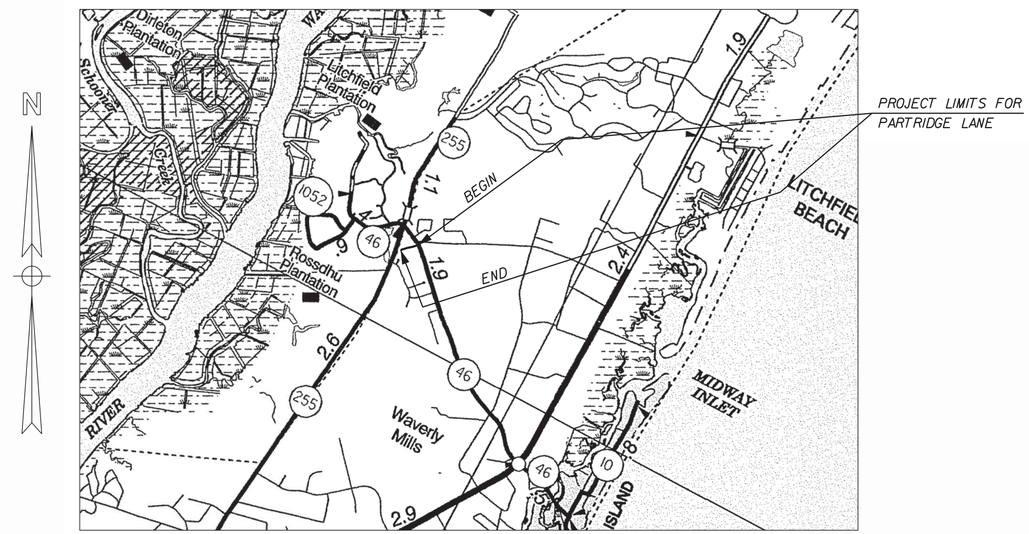
PLAN OF PROPOSED IMPROVEMENTS FOR PARTRIDGE LANE

South Carolina Department of Transportation

APPROVED PLANS

By: APPROVED

Date: By Raleigh Ward at 12:56 pm, Apr 10, 2019



LAYOUT
1" = 2640'

NPDES PERMIT INFORMATION
NPDES Disturbed Area = 0.45 Acres
Approximate Location of Roadway is: Longitude 79°08'20.59"W Latitude 33°27'40.37"N
Hydrology and NPDES Design provided by: Davis & Floyd

NET LENGTH OF ROADWAY	0.12	MILES
NET LENGTH OF OUTFALL	0.00	MILES
NET LENGTH OF PROJECT	0.12	MILES
LENGTH OF EXCEPTIONS	0.00	MILES
GROSS LENGTH OF PROJECT	0.12	MILES

NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

RAILROAD INVOLVEMENT?
YES / (NO)

INDEX OF SHEETS

SHEET #	DESCRIPTION	SHEET TOTALS
1	TITLE SHEET	1
3	TYPICAL SECTIONS	1
5	GENERAL CONSTRUCTION NOTES	1
5A	REFERENCE DATA SHEET	1
6	PLAN AND PROFILE SHEETS	1
EC1 - EC2	EROSION CONTROL SHEET	2
U1	UTILITY SHEET	1
X1 - X3	CROSS SECTIONS	3
D1 - D14	STANDARD DRAWINGS	14
	TOTAL SHEETS	25

3 DAYS BEFORE DIGGING IN SOUTH CAROLINA

CALL 811

PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)

ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

CONSULTING ENGINEERING FIRM

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

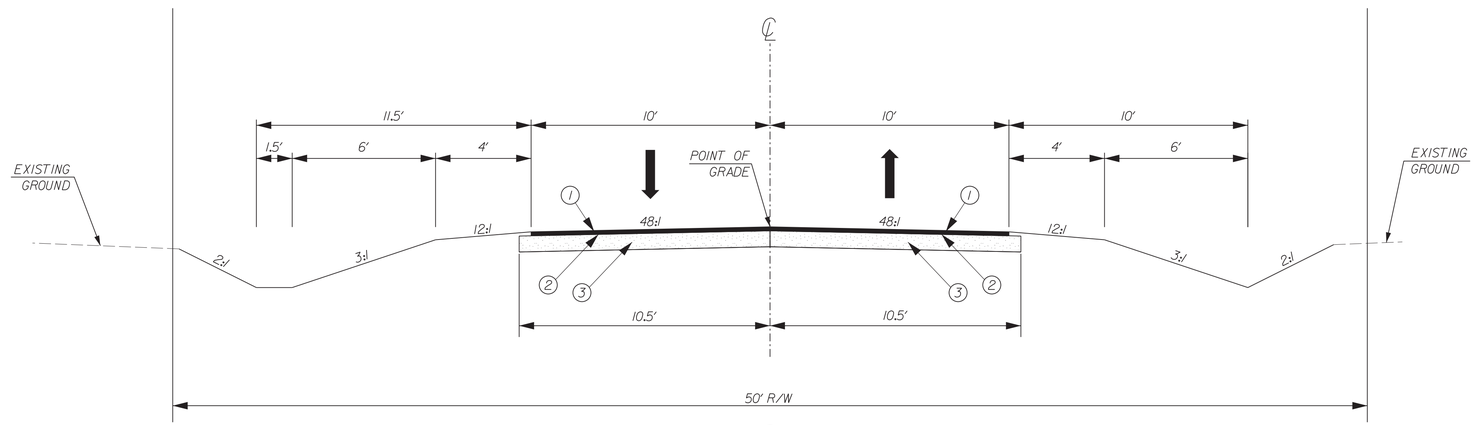
CONSULTANT - PROJECT ENGINEER

SOUTH CAROLINA PROFESSIONAL ENGINEER 4/04/19 No. 20214 GEORGE TILLEY BULL

FOR CONSTRUCTION : _____ DATE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	3	

TYPICAL SECTIONS
PARTRIDGE LANE
GEORGETOWN COUNTY



1

TWO LANE
TYPICAL SECTION
STA. 10+12.92 TO STA. 16+39.99

WITHIN THE SCDOT R/W USE THE FOLLOWING PAVEMENT DESIGN
H/M ASPHALT CONCRETE SURFACE COURSE TYPE B (200#/SY)
H/M ASPHALT CONCRETE INTERMEDIATE COURSE TYPE B (250#/SY)
H/M ASPHALT CONCRETE BASE COURSE TYPE B (600#/SY)

PAVEMENT LEGEND

1 H/M ASPHALT CONCRETE SURFACE COURSE TYPE C (200#/SY)
2 PRIME COAT
3 8" GRADED AGGREGATE BASE COURSE

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/04/19
No. 20214
GEORGE TILLEY BALL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
N. CHARLESTON, SC 29418
(843) 554-8102

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE
TYPICAL SECTION SHEET

SCALE 1" = 3'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	5	

GENERAL CONSTRUCTION NOTES:

THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD CONSTRUCTION (LATEST EDITION), SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION), SCDOT TRAFFIC SIGNAL SPECIFICATIONS, AND THE MUTCD, 2009 EDITION.

THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT THE TRANSFER OF SUSPENDED SOLIDS AND/OR CHEMICAL SOLUTIONS OFF-SITE, AND TO PREVENT EXCESSIVE SILTATION OF EXISTING DRAINAGE PIPES, CULVERTS, AND DITCHES. THE CONTRACTOR SHALL ROUTINELY INSPECT AND MAINTAIN THESE DEVICES. ALL CHECK DAMS AND RIPRAP SHOWN ARE CLASS B UNLESS OTHERWISE STATED.

THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE FACILITIES SHOWN ON THE PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE UTILITIES INFORMATION SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT THE PROPER COORDINATION WITH THE VARIOUS UTILITY OWNERS HAS BEEN PERFORMED. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY DURING RELOCATION OPERATIONS.

THE LOCATION OF UTILITIES SHOWN IN THE PLANS SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS DESIGNATED BY A TEST HOLE. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, UTILITIES AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR OR COORDINATE WITH UTILITY OWNERS TO REPAIR ANY DAMAGES DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL NOT STORE ANY MATERIALS OR EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVEL WAY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMISSION TO STORE EQUIPMENT ON ADJACENT PROPERTIES.

PIPE LENGTHS THAT ARE SHOWN ON THE PLANS ARE ROUNDED TO THE NEAREST 4' INCREMENT AND CALCULATED ALONG THE PIPE SLOPE FROM CENTER OF BOX TO CENTER OF BOX. FIELD ADJUSTMENTS OF THE ACTUAL PIPE LENGTHS MAY BE NECESSARY.

ANY COSTS ASSOCIATED WITH REMOVING EXISTING PIPE SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE.

FINAL SURFACE COURSE ON ALL ROADWAYS SHALL NOT BE PLACED UNTIL ALL DRAINAGE AND CURB AND GUTTER INSTALLATIONS ARE COMPLETE.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER DEWATERING PROCEDURES TO PREVENT THE FLOW AND ACCUMULATION OF SURFACE AND GROUND WATER IN EXCAVATED AREAS. ALL OF THE WATER PUMPED OR DRAINED SHALL BE DISPOSED OF WITHOUT UNDUE INTERFERENCE WITH OTHER WORK OR DAMAGE TO PAVEMENTS AND OTHER SURFACES OR PROPERTY. DISCHARGED WATER FROM ALL DEWATERING OPERATIONS SHALL BE FILTERED IN ACCORDANCE WITH SCDHEC OR OCRM REGULATIONS OR AS APPROVED BY THE ENGINEER. A PLAN FOR DEWATERING SHALL BE SUBMITTED TO THE RESIDENT CONSTRUCTION ENGINEER AND OCRM FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED WHERE DEWATERING IS REQUIRED. ONCE APPROVED AN ADDITIONAL COPY OF THE PLAN SHOULD BE PROVIDED TO GEORGETOWN COUNTY PUBLIC WORKS.

THE CONTRACTOR SHALL PROVIDE A DETAILED CONTRACTOR'S EROSION CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO COMMENCING ANY WORK ON THE PROJECT.

THE CONTRACTOR SHALL PROVIDE A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL BEFORE STARTING ANY WORK ON THE PROJECT. THIS PLAN SHALL INCLUDE DETAILS CONCERNING PLACEMENT OF REFLECTORIZED BARRELS, CONES, AND/OR TYPE 2 BARRICADES IN ACCORDANCE WITH THE 2009 MUTCD.

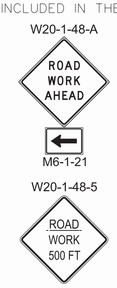
THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING, AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR TO MINIMIZE TRENCH WIDTH AS REQUIRED. PAYMENT FOR SUCH MEASURES IS INCLUDED IN THE BID PRICE FOR THE ITEM BEING CONSTRUCTED.

WHERE STORM PIPES AND STRUCTURES ARE IDENTIFIED TO BE ABANDONED IN PLACE, THE FOLLOWING PROCEDURES SHALL BE UTILIZED:

PIPES: PLUG END(S) WITH BRICK AND GROUT.
STRUCTURES: REMOVE RIM/COVER AND CONE OR TOP SLAB.
PLUG PIPE OPENINGS WITH BRICK AND GROUT.
FILL STRUCTURE WITH FLOWABLE FILL TO BOTTOM OF PAVEMENT SECTION.
TEMPORARY ASPHALT IF NEEDED.

ANY COSTS ASSOCIATED WITH ABANDONING PIPES OR STRUCTURES SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE OR STRUCTURES ACCORDINGLY.

CONSTRUCTION SIGNS: CONSTRUCTION SIGN SETS SHALL BE PLACED ALONG BOTH APPROACHES OF THE ROADWAY INTERSECTING WITH THE PROJECT ROADWAY. ROAD WORK AHEAD AND DIRECTIONAL ARROW SIGNS ARE TO BE PLACED APPROXIMATELY 100' IN ADVANCE OF THE INTERSECTION OF THE ROAD UNDER CONSTRUCTION. END ROAD WORK SIGN SHOULD BE PLACED 50' AFTER THE SECOND INTERSECTION WITH THE PROJECT ROADWAY. DISCRETION SHOULD BE USED IN PLACEMENT OF THE SIGNS, NO SIGHTLINES FROM ROADWAYS OR DRIVEWAYS SHOULD BE AFFECTED BY THE PLACEMENT OF THE SIGNS.



PAVE ALL DRIVEWAYS TO R/W LINE. UNLESS THE DRIVEWAY IS LABELED, THE STANDARD DRIVEWAY RADIUS IS 10'. THIS MAY BE MODIFIED PER DIRECTION OF THE ENGINEER TO FIT FIELD CONDITIONS.

THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING CONSTRUCTION.

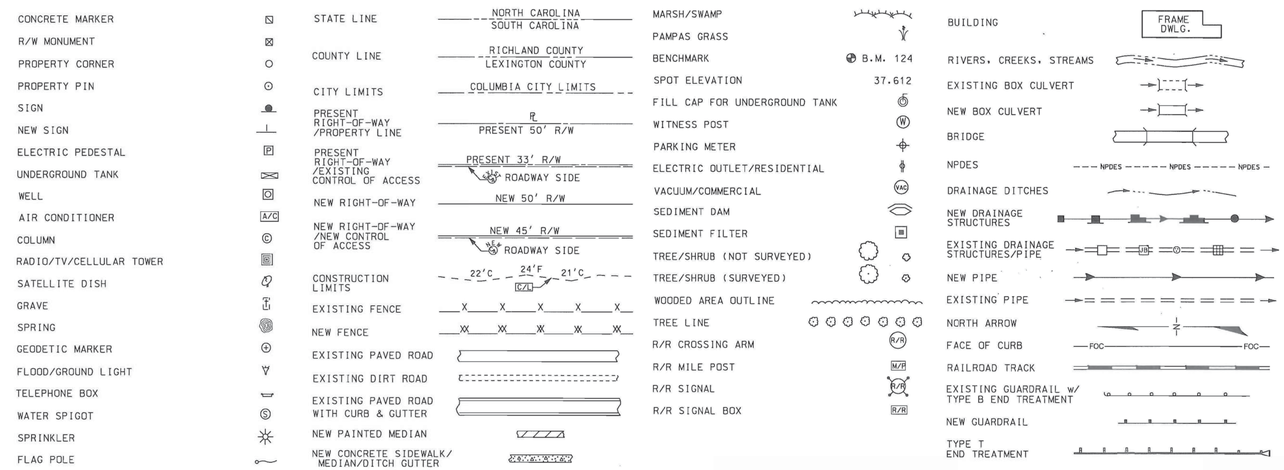
THE ENGINEER RESERVES THE RIGHT TO ADJUST THE LOCATION OF ALL PROPOSED IMPROVEMENTS TO MEET FIELD CONDITIONS IF NECESSARY.

STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

ALL DISTURBED AREAS SHALL BE SEEDED AFTER GRADING IS COMPLETE OR WITHIN 7 DAYS AFTER WORK STOPS IN AN AREA UNLESS WORK IS TO RESUME IN THAT AREA IN LESS THAN 21 DAYS.

NOTE:
1. SEE SCDOT STANDARD DRAWING NO. 625-305-00 FOR PAVEMENT MARKING DETAILS.
2. SEE SCDOT STANDARD DRAWING NO. 651-110-00 FOR FLAT SHEET MOUNTING DETAILS.
3. IF A SIGN MARKED TO BE RELOCATED IS DAMAGED BY THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE SIGN.
4. CONTRACTOR IS TO SAW-CUT CONNECTIONS TO EXISTING ROADWAYS AND/OR DRIVEWAYS WHERE APPLICABLE.
5. CONTRACTOR IS TO PAVE DRIVEWAY APRONS TO RIGHT-OF-WAY LIMITS.

STANDARD SYMBOLS



SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/04/19 No. 20214 GEORGE TILLEY BALL

DAVIS & FLOYD
SINCE 1954
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3229 W. MONTAGUE AVENUE
NORTH CHARLESTON, SC 29418
(843) 554-8652

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE

GENERAL CONSTRUCTION NOTES

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	5A	

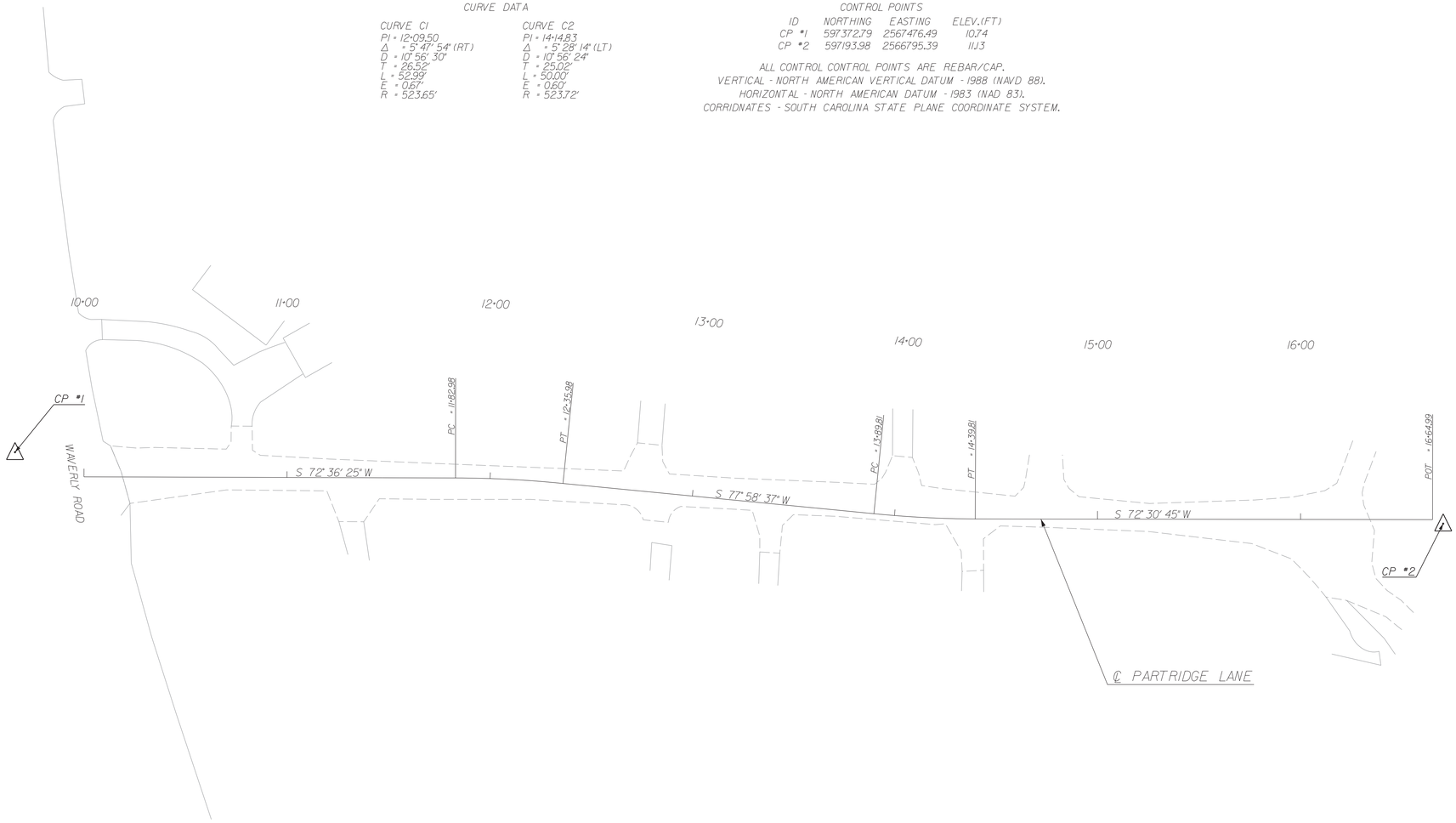
CURVE DATA

CURVE C1	CURVE C2
PI = 12+09.50	PI = 14+14.83
Δ = 5° 47' 54" (RT)	Δ = 5° 28' 14" (LT)
D = 10° 56' 30"	D = 10° 56' 24"
T = 26.52'	T = 25.02'
L = 52.99'	L = 50.00'
E = 0.67'	E = 0.60'
R = 523.65'	R = 523.72'

CONTROL POINTS

ID	NORTHING	EASTING	ELEV.(FT)
CP #1	597372.79	2567476.49	107.4
CP #2	597193.98	2566795.39	113.3

ALL CONTROL CONTROL POINTS ARE REBAR/CAP.
VERTICAL - NORTH AMERICAN VERTICAL DATUM - 1988 (NAVD 88).
HORIZONTAL - NORTH AMERICAN DATUM - 1983 (NAD 83).
CORRIDNATES - SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM.



Beginning chain PARTRIDGE description

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Point P01 N 597,374.0747 E 2,567,440.4618 Sta 10+00.00

Course from P01 to PC C01 S 72° 36' 25.02" W Dist 182.9840

Curve Data

Curve C01
P.I. Station 12+09.50 N 597,311.3839 E 2,567,240.5581
Delta = 5° 47' 54.08" (RT)
Degree = 10° 56' 29.82"
Tangent = 26.5194
Length = 52.9936
Radius = 523.6501
External = 0.6711
Long Chord = 52.9710
Mid.Ord. = 0.6702
P.C. Station 11+82.98 N 597,319.3762 E 2,567,265.8445
P.T. Station 12+35.98 N 597,305.9871 E 2,567,214.5936
C.C. N 597,818.6796 E 2,567,108.0297
Back = S 72° 27' 35.33" W
Ahead = S 78° 15' 29.41" W
Chord Bear = S 75° 21' 32.37" W

Course from PT C01 to PC C02 S 77° 58' 36.77" W Dist 153.8284

Curve Data

Curve C02
P.I. Station 14+14.83 N 597,268.7989 E 2,567,039.6535
Delta = 5° 28' 13.53" (LT)
Degree = 10° 56' 24.28"
Tangent = 25.0208
Length = 50.0035
Radius = 523.7237
External = 0.5973
Long Chord = 49.9845
Mid.Ord. = 0.5967
P.C. Station 13+89.81 N 597,273.9437 E 2,567,064.1396
P.T. Station 14+39.81 N 597,261.3432 E 2,567,015.7694
C.C. N 596,761.4112 E 2,567,171.8284
Back = S 78° 08' 02.83" W
Ahead = S 72° 39' 49.31" W
Chord Bear = S 75° 23' 56.07" W

Course from PT C02 to P02 S 72° 30' 44.83" W Dist 225.1818

Point P02 N 597,193.6764 E 2,566,800.9950 Sta 16+64.99

****

Ending chain PARTRIDGE description

0 30 60 90 120

DAVIS & FLOYD, INC. No. C00538 — SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20214 — 4/04/19 — GEORGE TILLEY BLACK

DAVIS & FLOYD
SINCE 1954
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3229 W. MONTAGUE AVENUE
NORTH CHARLESTON, SC 29418
(843) 554-8062

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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1			

DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE
REFERENCE DATA SHEET

SCALE 1" = 30'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	6	

ALL DRIVEWAY CULVERTS SHALL BE INSTALLED AND SEALED ACCORDING TO SCDOT TYPICAL 714-205-01 DETAIL 4 AND 5 WITH AN AASHTO M 315 RUBBER GASKET SEAL.ON PROPER GRADE TO ALLOW FOR POSITIVE STORM WATER FLOW WITHIN THE PIPE AND TO/FROM ADJACENT PIPES/CROSS LINE.

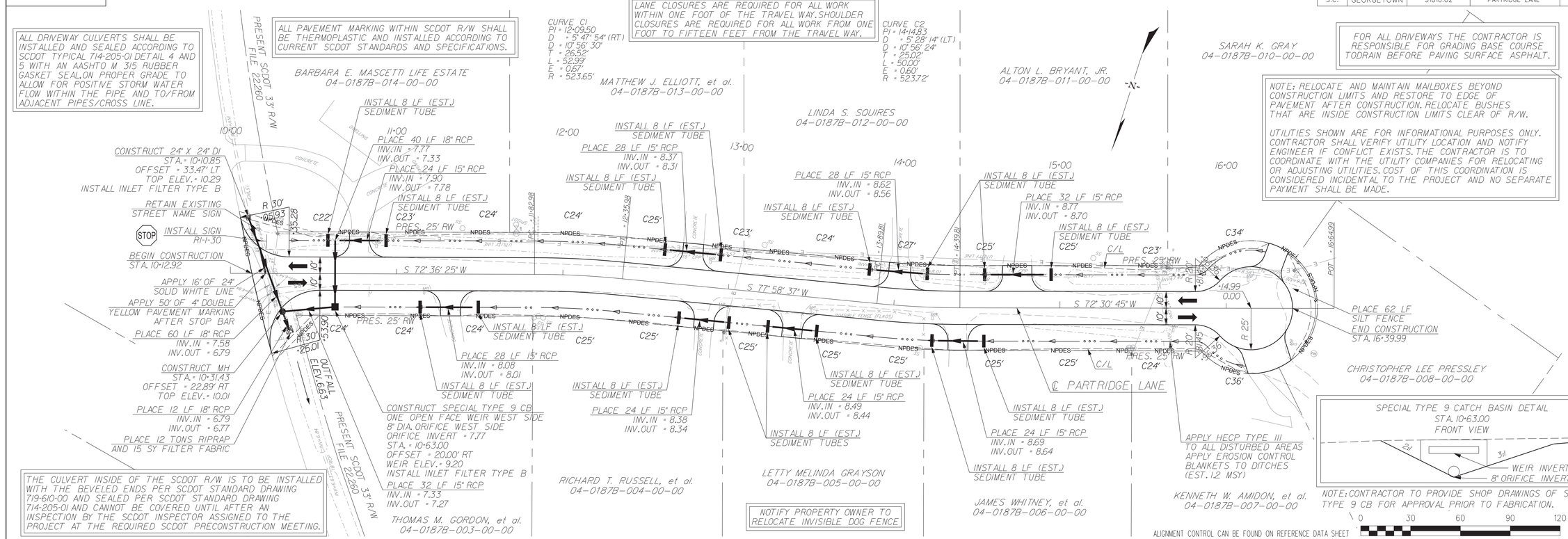
ALL PAVEMENT MARKING WITHIN SCDOT R/W SHALL BE THERMOPLASTIC AND INSTALLED ACCORDING TO CURRENT SCDOT STANDARDS AND SPECIFICATIONS.

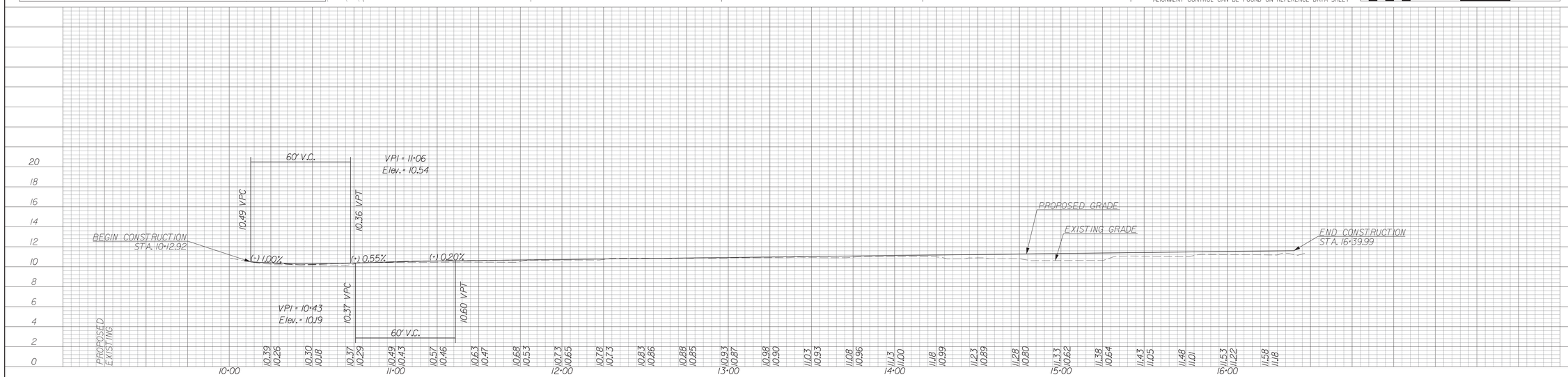
LANE CLOSURES ARE REQUIRED FOR ALL WORK WITHIN ONE FOOT OF THE TRAVEL WAY.SHOULDER CLOSURES ARE REQUIRED FOR ALL WORK FROM ONE FOOT TO FIFTEEN FEET FROM THE TRAVEL WAY.

FOR ALL DRIVEWAYS THE CONTRACTOR IS RESPONSIBLE FOR GRADING BASE COURSE TODRAIN BEFORE PAVING SURFACE ASPHALT.

NOTE: RELOCATE AND MAINTAIN MAILBOXES BEYOND CONSTRUCTION LIMITS AND RESTORE TO EDGE OF PAVEMENT AFTER CONSTRUCTION. RELOCATE BUSHES THAT ARE INSIDE CONSTRUCTION LIMITS CLEAR OF R/W.

UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY UTILITY LOCATION AND NOTIFY ENGINEER IF CONFLICT EXISTS.THE CONTRACTOR IS TO COORDINATE WITH THE UTILITY COMPANIES FOR RELOCATING OR ADJUSTING UTILITIES. COST OF THIS COORDINATION IS CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.





SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/04/19 No. 20214 GEORGE TILLEY BUTLER

DAVIS & FLOYD

SINCE 1954

WWW.DAVISFLOYD.COM

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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1			

DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE
PLAN AND PROFILE SHEET

SCALE 1" = 30' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	EC1	

OCRM STANDARD NOTES

1. If necessary, slopes which exceed eight (8) feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.

2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below:
   *Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
   *Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the site.

3. All sediment and erosion control devices shall be inspected once every calendar week. If periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.

4. Provide silt fence and or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized immediately after the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the state.

5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from the construction area and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

7. Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with S.C. REG. 72-300 ET SEQ. and SCR100000.

8. Temporary diversion berms and or ditches will be provided as needed during construction to protect work areas from upslope runoff and or to divert sediment laden water to appropriate traps or stable outlets.

9. All waters of the state (WOS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WOS. A 10-foot buffer should be maintained between the last row of silt fence and all WOS..

10. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from being a pollutant source in storm water discharges.

11. A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.

12. Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume for a period of 7 calendar days.

13. Minimize soil compaction and, unless infeasible, preserve topsoil.

14. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

15. Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).

16. The following discharges from sites are prohibited:
    *Wastewater from washout of concrete, unless managed by an appropriate control;
    *Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
    *Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
    *Soaps or solvents used in vehicle and equipment washing.

17. After construction activities begin, inspections must be conducted at a minimum of at least once every calendar week and must be conducted until final stabilization is reached on all areas of the construction site.

18. If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.

19. A Pre-Construction Conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more this conference must be held on-site unless the Department has approved otherwise.

SEEDING INSTALLATION

A. Seed all disturbed areas of construction (excluding riprap lined ditches).

B. No seeding should be undertaken in windy or unfavorable weather, when the ground is too wet to rake easily, when it is in a frozen condition, or too dry.

C. The subgrade of all areas to be seeded shall be raked and all rubbish, sticks, roots, and stones larger than 2 IN shall be removed.

D. Fertilizer shall be uniformly spread and disked or roto-tilled to a depth of at least 4 IN.

E. Immediately following this preparation the seed shall be uniformly applied and lightly raked into the surface. Lightly roll the surface and water with fine spray. Seed shall be applied, depending on the period of year, at the rates indicated in Section 810 of the SCDOT Standard Specifications for Highway Construction (Edition 2007).

   All seeded areas shall be mulched with clean small-grain straw at a rate of 1½ to 2 tons per acre. Asphalt emulsion shall be applied uniformly at a rate of 300 GAL per acre to tack the mulch, unless otherwise shown on the plans. Mechanical tacking will be considered on a case-by-case basis as approved by the Engineer.

F. All seeded areas shall be watered and maintained in good condition. Reseeding shall be done if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.

G. Slopes shall be protected against washouts by an approved method. Any washout which occurs shall be regraded and reseeded until good sod is established.

SWPPP NARRATIVE

Ditches will be cut on both sides of the proposed roadway conveying stormwater to the existing roadside ditches along Waverly Road which convey stormwater to an unnamed tributary to Waverly Creek. Sediment tubes and silt fence will be used in the proposed ditches and around the perimeter of the project disturbance area to control sediment leaving the project area. The topography of the project site is very flat. The soils on the project consist of Yauhannah loamy fine sand, a B/D hydrologic group soil, Chisolm sand, an A hydrologic group soil, and Echaw sand, an A hydrologic group soil. There are 12 houses located on the properties adjacent to the project.

SEQUENCE OF CONSTRUCTION

A. Obtain all permits.

B. Contact the office of Ocean and Coastal Resource Management (OCRM) at (843)238-4528 prior to commencing construction activities.

C. Install sediment erosion controls as follows:

1. Silt Fences shall be used to prevent silt from leaving the limits of construction.
2. Stabilized Graveled Construction Entrances shall be used at locations where construction vehicles access public non-construction areas. Vehicles shall be washed down as necessary to prevent tracking of silt offsite.
3. A temporary rock filter dam or sediment tube shall be used as ditch checks as directed by the Engineer.
4. Adhere by all of the OCRM Standard Notes listed on the right of this sheet and install BMP's per the SCDOT Standard Drawings for Erosion Control.

D. A recommended sequence of construction follows:

1. Clear and grub only areas necessary for perimeter erosion and sediment control silt fence, hay bales, and temporary sediment traps.
2. Construct perimeter controls.
3. Construct new drainage appurtenances within the areas protected by perimeter controls.
4. Install protection around inlets and stabilize disturbed areas as soon as possible (within 7 calendar days).
5. Proceed with construction. Limit disturbed areas to areas with work in progress to limit disruption to traffic. Schedule work to maintain access to all driveways as long as possible.
6. Erosion controls may be removed after the area contributing flow to that particular erosion control device has been stabilized.
7. Stabilize all remaining areas.
8. Clean out temporary sediment control as needed; check controls every seven (7) days.
9. Remove sediment controls 30 days after all disturbed areas have stabilized.

STANDARD EROSION CONTROL DRAWINGS

DRAWING NO.	DRAWING DESCRIPTION	LATEST REVISION
815-205-00	SEDIMENT TUBE DITCH APPLICATION	7/2017
815-605-00	TEMPORARY SILT FENCE	7/2017
815-605-30	ROLLED EROSION CONTROL PRODUCT	7/2017
804-305-01	OUTLET PROTECTION WITH NO DEFINED CHANNEL	7/2017
804-305-02	OUTLET PROTECTION WITH NO DEFINED CHANNEL	7/2017
804-305-03	OUTLET PROTECTION WITH NO DEFINED CHANNEL	7/2017
804-310-00	OUTLET PROTECTION WITH DEFINED CHANNEL	7/2017

Copies of SCDOT Standard Drawings are available
at the following web address http://www.scdot.org/doing/sd_Disclaimer.aspx

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/04/19
No. 20214
GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

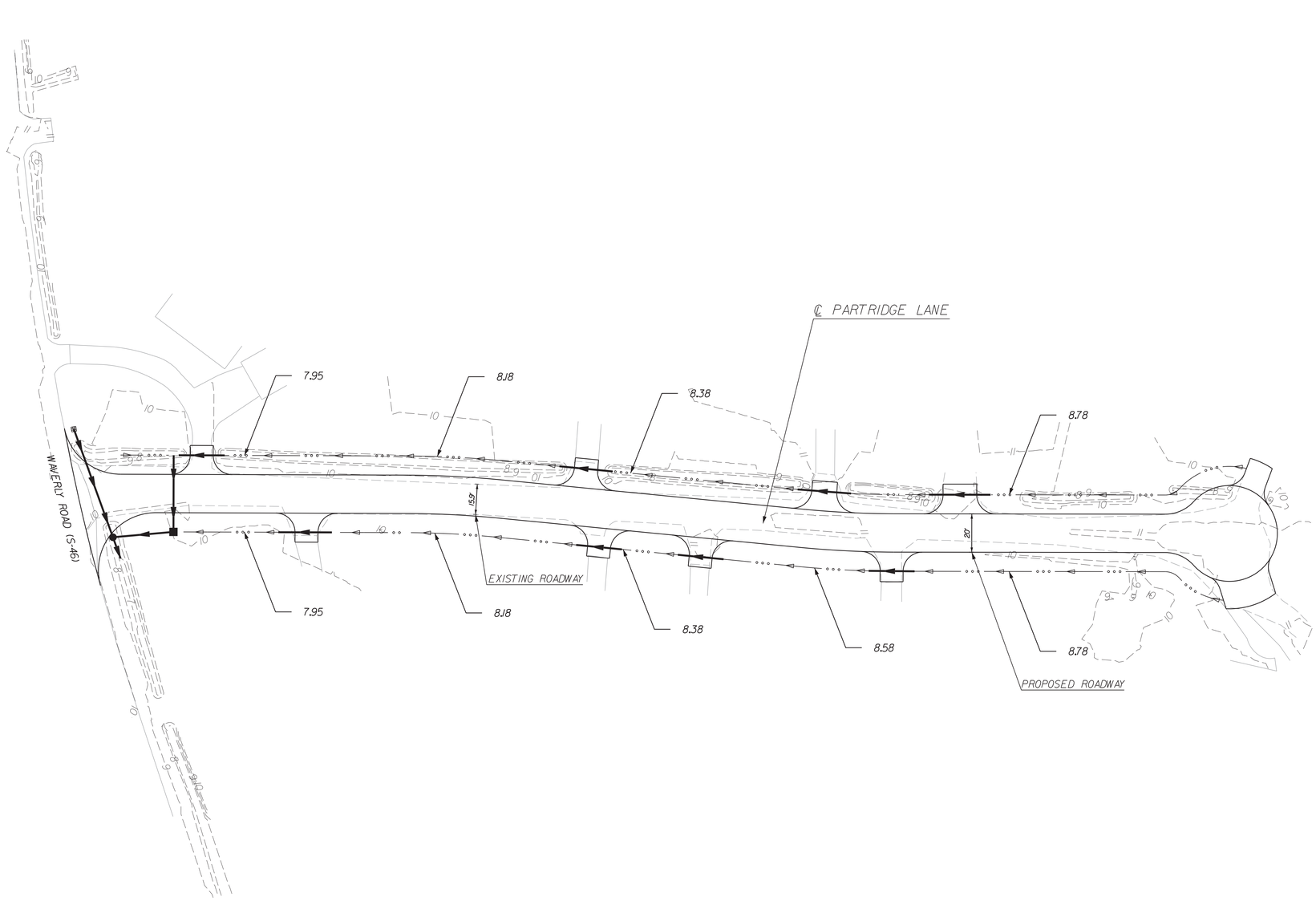
DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE

EROSION CONTROL NOTES

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	EC2	



LEGEND

--- 10 ---	EXISTING CONTOUR
7.95	PROPOSED DITCH SPOT ELEVATION
—···—	PROPOSED DITCH LINE

FOR PERMIT CONSIDERATION ONLY

DAVIS & FLOYD

SINCE 1954

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3229 W. MONTAGUE AVENUE
NORTH CHARLESTON, SC 29418
(843) 554-8062

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

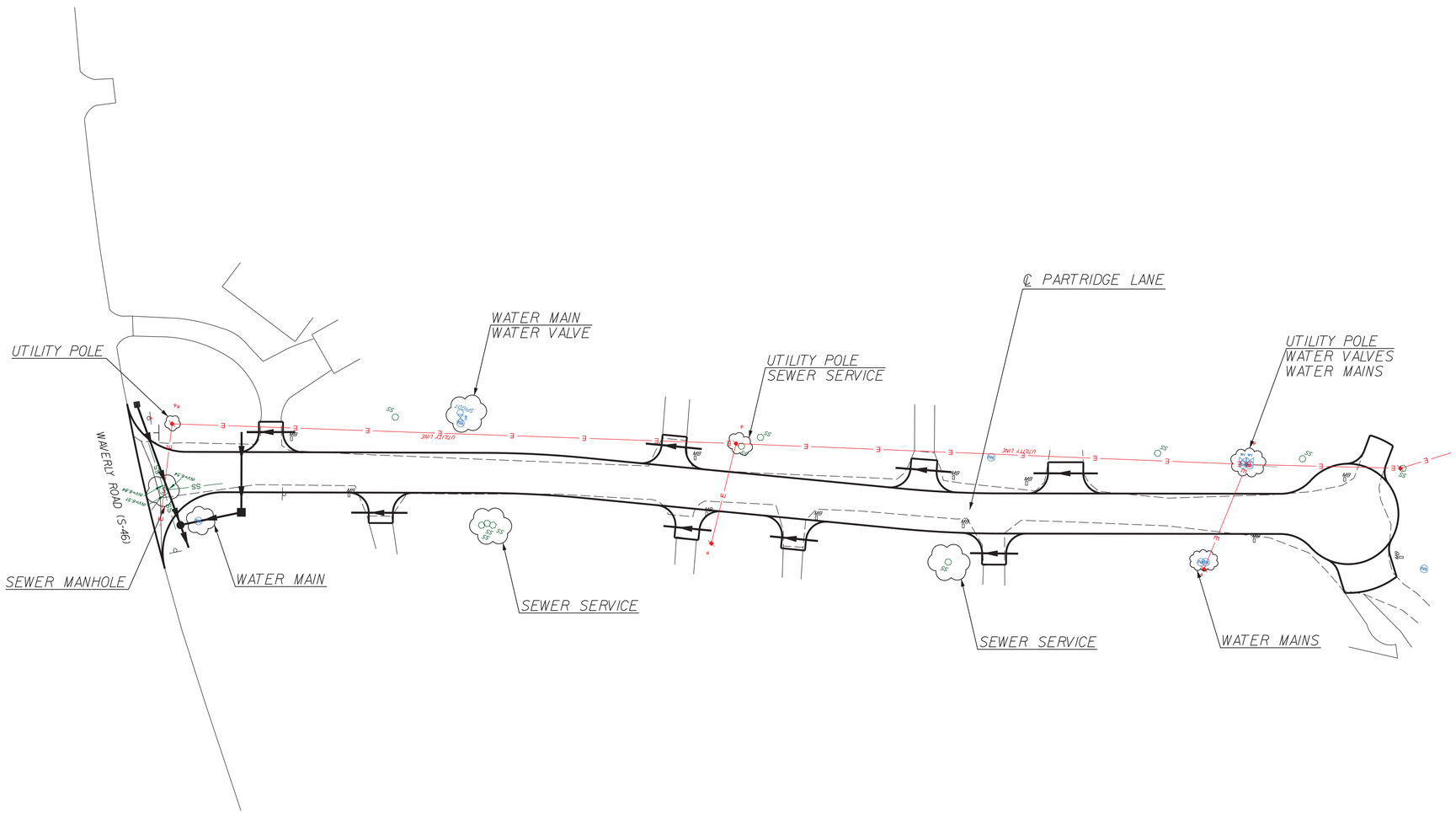
DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

PARTRIDGE LANE
PLAN AND PROFILE SHEET

SCALE 1" = 30'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	PARTRIDGE LANE	U1	



FOR INFORMATION ONLY. CONTRACTOR SHALL CALL PUPS (811) BEFORE DIGGING

E	POWER
W	WATER
SS	SEWER
	POTENTIAL CONFLICT

0 30 60 90 120

FOR PERMIT CONSIDERATION ONLY

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3229 W. MONTAGUE AVENUE
NORTH CHARLESTON, SC 29418
(843) 554-8802

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JJG DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

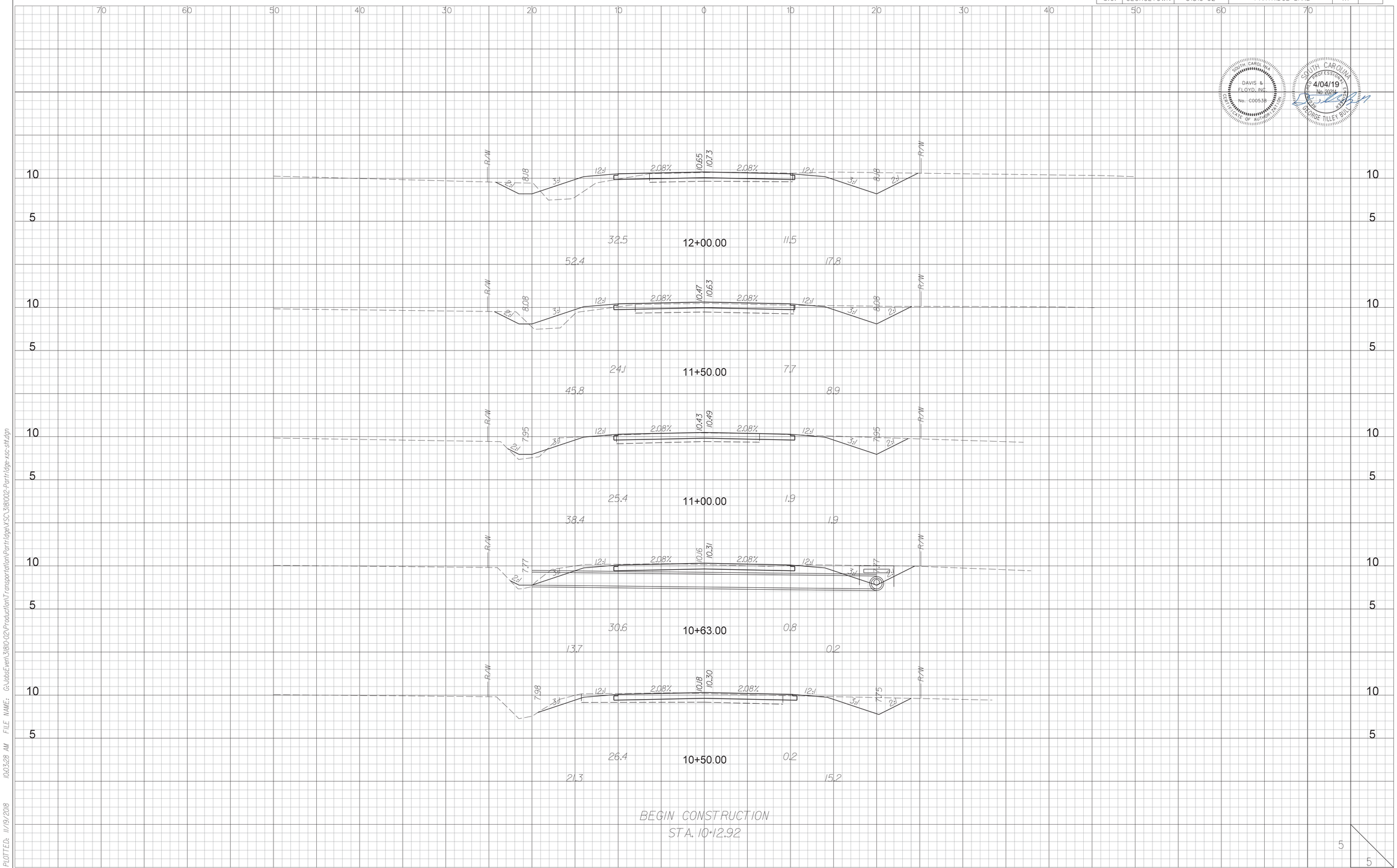
PARTRIDGE LANE
UTILITY SHEET

SCALE 1" = 30'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-02	PARTRIDGE LANE	X1	

DAVIS & FLOYD, INC. No. C00538 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 20214 — GEORGE TILLEY BULL — 4/04/19



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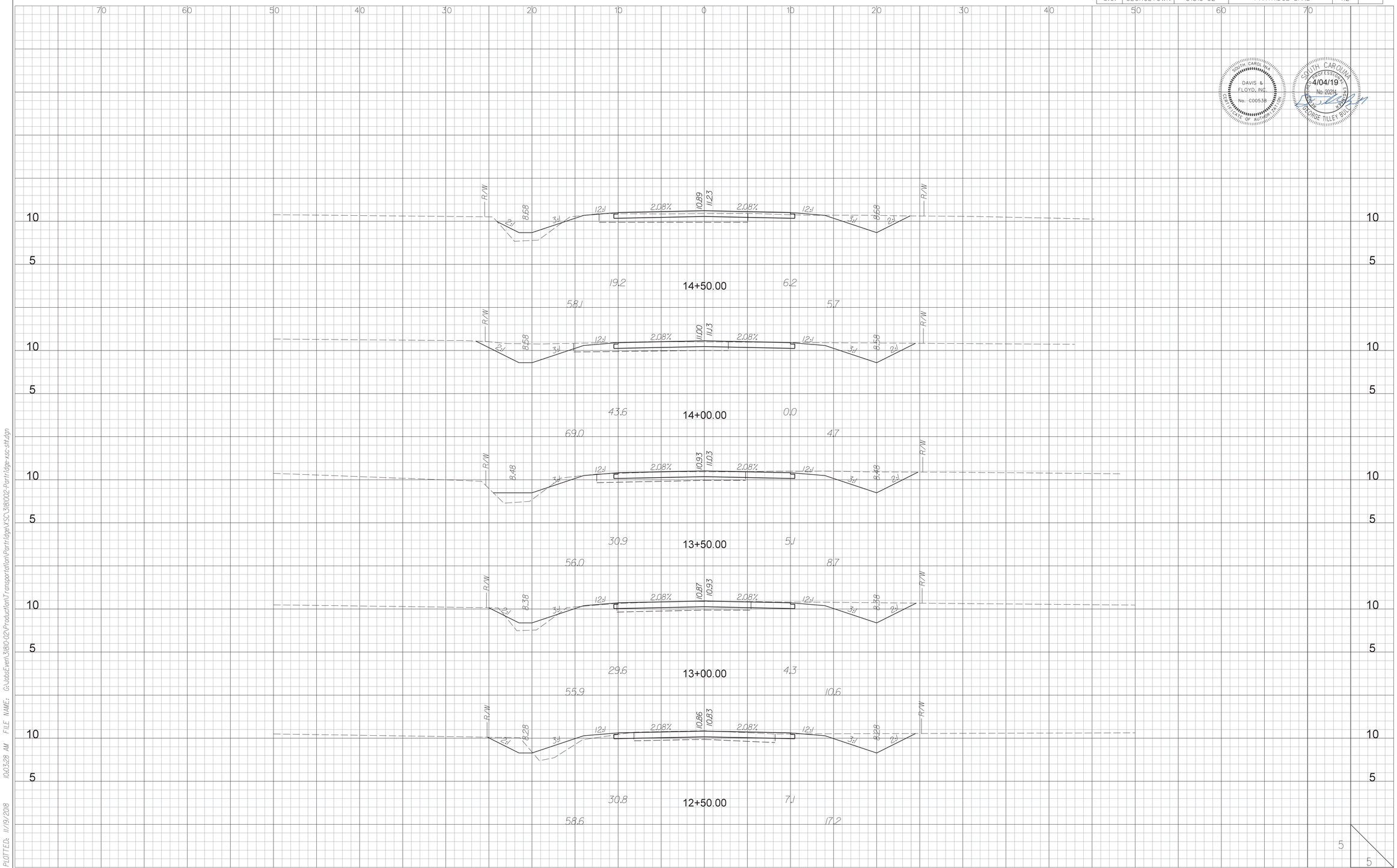
S.C.	GEORGETOWN	31810-02	PARTRIDGE LANE	X2	

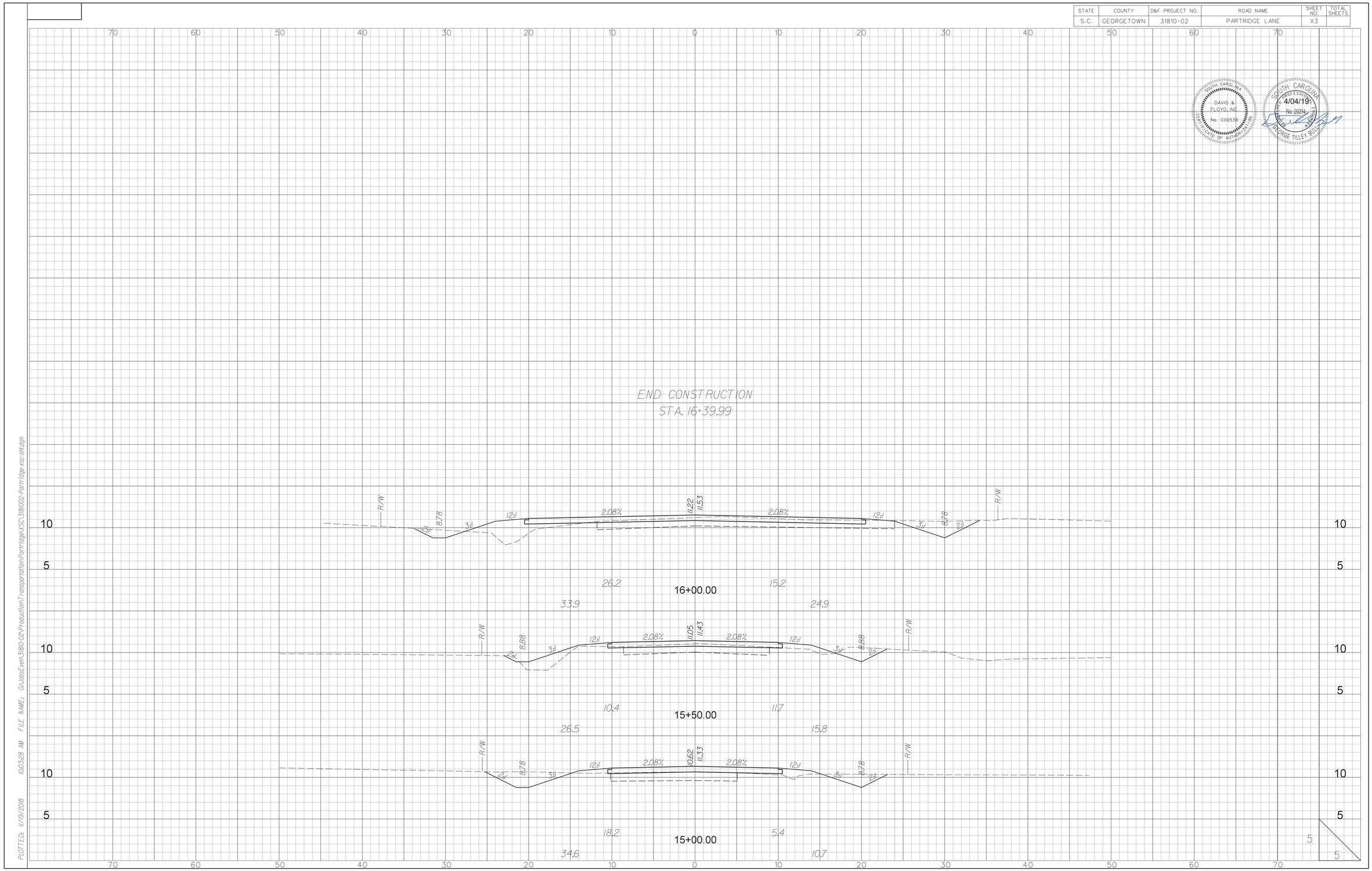


DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
4/04/19
No. 20214
GEORGE TILLEY BULL, JR.

PLOTTED: 11/19/2008 10:03:28 AM FILE NAME: G:\ObsEven\31810-02\Production\Transportation\Partridge\XSC\31810-02-Partridge-xsc-sht.dgn

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-02	PARTRIDGE LANE	X3	



SOUTH CAROLINA
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SHEET NO.
D01

PERMANENT SEEDING - COASTAL

SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET BAHIAGRASS	10 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS/Ac 30 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET ATLANTIC COASTAL PANICGRASS	10 LBS/Ac 15 LBS/Ac PLS												
BROWNTOP MILLET SWITCHGRASS (ALAMO) LITTLE BLUESTEM SERICEA LESPEDEZA	10 LBS/Ac 8 LBS/Ac PLS 4 LBS/Ac 20 LBS/Ac												
BROWTOP MILLET WEEPING LOVEGRASS	10 LBS/Ac 8 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET BAHIAGRASS	10 LBS/Ac 40 LBS/Ac												
RYE, GRAIN BAHIAGRASS CLOVER, CRIMSON (ANNUAL)	10 LBS/Ac 40 LBS/Ac 5 LBS/Ac												
BROWTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS/Ac 30 LBS/Ac 40 LBS/Ac												
BROWTOP MILLET BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS/Ac 10 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET BERMUDA, COMMON KOBE LESPEDEZA (ANNUAL)	10 LBS/Ac 12 LBS/Ac 10 LBS/Ac												
BROWNTOP MILLET BAHIAGRASS BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS/Ac 20 LBS/Ac 6 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET SWITCHGRASS LITTLE BLUESTEM INDIANGRASS	10 LBS/Ac 8 LBS/Ac PLS 3 LBS/Ac PLS 3 LBS/Ac PLS												

TEMPORARY SEEDING - COASTAL

SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET RYE, GRAIN RYEGRASS	40 LBS/Ac 56 LBS/Ac 50 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET OR JAPANESE MILLET	40 LBS/Ac												
RYE, GRAIN OR OATS	56 LBS/Ac 75												
RYEGRASS	50 LBS/Ac												

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SEEDING SCHEDULE

N.T.S.

NOTES:

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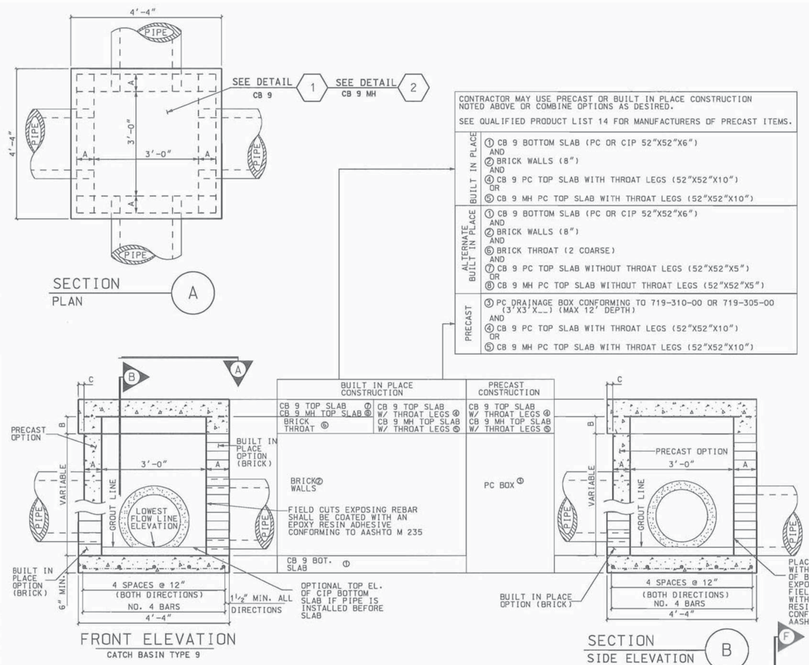
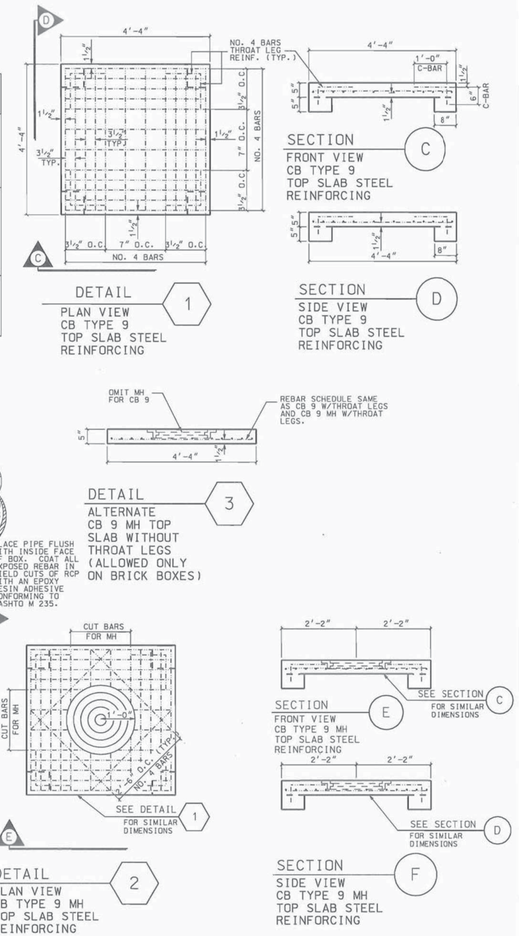
2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



PRECAST ITEMS
CB 9 BOTTOM SLAB (52"X52"X6")
CB 9 TOP SLAB WITH THROAT LEGS (52"X52"X10")
CB 9 MH TOP SLAB WITH THROAT LEGS (52"X52"X10")
ALTERNATE CB 9 TOP SLAB WITHOUT THROAT LEGS (52"X52"X5")
SEE ALSO STD. DRAWING 719-310-00 & 719-305-00

TABLE 719-009A		
DIMENSION LABEL	PRECAST OPTION	BUILT IN PLACE OPTION
A	6"	8"
B	5"	2 COURSE OF BRICK
C	2"	0

USE SHEETS 719-009-01 THROUGH 719-009-05 FOR THIS ITEM
THIS DRAWING IS NOT TO SCALE



USE SHEETS 719-009-01 THROUGH 719-009-05 FOR THIS ITEM
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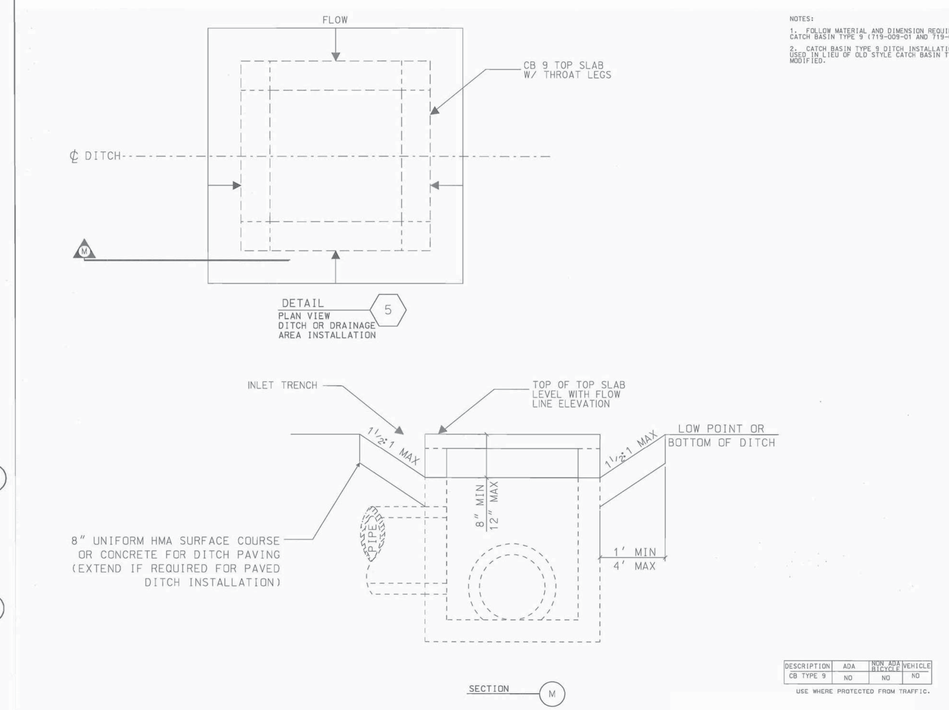

NOTES:
1. FOLLOW MATERIAL AND DIMENSION REQUIREMENTS OF CATCH BASIN TYPE 9 (719-009-01 AND 719-009-02).
2. CATCH BASIN TYPE 9 DITCH INSTALLATION MAY BE USED IN LIEU OF OLD STYLE CATCH BASIN TYPE 14 MODIFIED.

DESCRIPTION	ADA	NON ADA BICYCLE	VEHICLE
CB TYPE 9	NO	NO	NO

USE WHERE PROTECTED FROM TRAFFIC.

USE SHEETS 719-009-01 THROUGH 719-009-05 FOR THIS ITEM
THIS DRAWING IS NOT TO SCALE

MODIFY CATCH BASIN PER DETAIL ON SHEET 6

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/01/19 No. 20214 GEORGE TILLEY BULL

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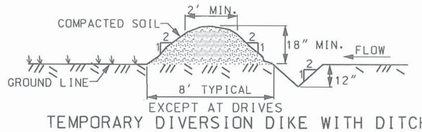
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

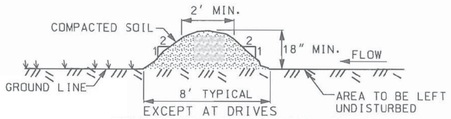
STANDARD TYPE 9 CATCH BASIN

N.T.S.



TEMPORARY DIVERSION DIKE WITH DITCH

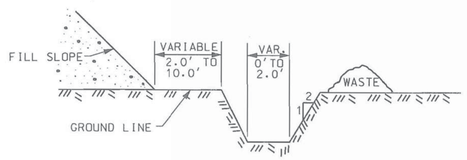
THE PAY ITEM SHALL BE TEMPORARY DIVERSION DIKE WITH DITCH_____L.F.



TEMPORARY DIVERSION DIKE

NOTES

1. THIS ITEM IS FOR DIVERTING CLEAN WATER AROUND A CONSTRUCTION AREA.
2. CLEAR AND GRUB ALL TREES, BRUSH, STUMPS AND OTHER OBJECTIONABLE MATERIAL.
3. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DIMENSIONS SHOWN.
4. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DIKE. (AS APPLICABLE).
5. PAYMENT FOR TEMPORARY DIVERSION DIKE INCLUDES ALL MATERIALS IN PLACE. REMOVAL AND DISPOSAL OF MATERIALS AND RESHAPING DIKE TO DRAIN. SEEDING TO BE PAID FOR SEPARATELY.
6. THE PAY ITEM SHALL BE: TEMPORARY DIVERSION DIKE_____L.F.

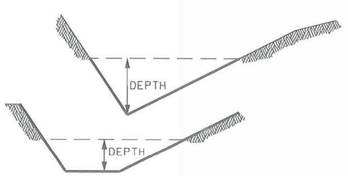


TEMPORARY SILT DITCH

NOTES

1. THIS ITEM IS TO MOVE SEDIMENT LADEN WATER FROM A CONSTRUCTION SITE TO A SEDIMENT CONTROL STRUCTURE.
2. SEED DITCH AND WASTE AREA WITH TEMPORARY SEEDING IMMEDIATELY AFTER CONSTRUCTION.
3. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DITCH (AS APPLICABLE).
4. THE PAY ITEM SHALL BE: SILT DITCHES_____C.Y.

ROLLED EROSION CONTROL PRODUCT



NOTES

1. THE DEPTH OF THE EROSION CONTROL PRODUCTS ARE TO BE DETERMINED BY DESIGN AND PLACED ON PLAN SHEETS.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. COST OF INSTALLATION AND MATERIALS SHALL BE INCLUDED IN THE PAY ITEM FOR ROLLED EROSION CONTROL PRODUCT.
4. PAY ITEMS:
TEMPORARY EROSION CONTROL BLANKET _____SY
PERMANENT TURF REINFORCEMENT MAT_____SY

THIS DRAWING IS NOT TO SCALE

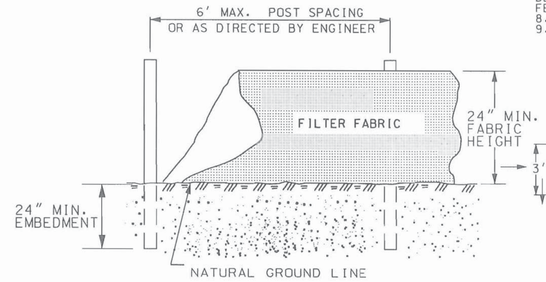
SILT FENCE

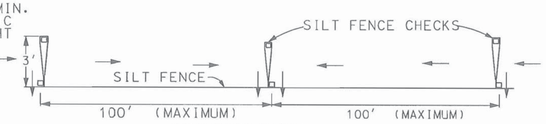
HEIGHT OF FILL (y) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (x) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (NPDES LINE) (z) IN FEET	CHECK LENGTH IN FEET**
<6	2:1 4:1 6:1	2	3	2
6-10	2:1	12*	13*	5
	4:1 6:1	3	4	3
>10	2:1	12*	13*	5
	4:1 6:1	4	5	4

*THESE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND GUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.

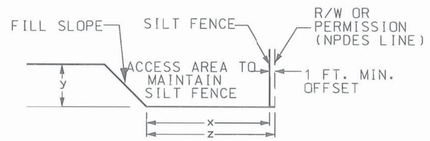
**SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY TIE BACK INTO THE SLOPE.

NOTES
1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FT. MAXIMUM AND AT LOW POINTS. FILTER FABRICS SHALL CONFORM TO SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).
2. USE POSTS CONFORMING TO SCDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER.
3. POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. POSTS SHALL ALSO HAVE A SOIL PLATE NEAR THE BOTTOM OF THE POST, EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON-SITE.
4. ATTACH FABRIC TO POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES.
5. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 1/3 THE HEIGHT OF THE FENCE. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF SILT BASIN.
6. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND. WHEN NEEDED, THE HEIGHT OF SILT FENCE FABRIC ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE, PAY ITEMS AND INSTALLATION METHODS.
7. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING AND BURIED DEPTHS WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5 OR 6 FEET TOTAL WIDTH.
8. FOLLOW SPECIFICATIONS WHEN USING ALTERNATE SILT FENCE (BSRF) DETAILS.
9. THE PAY ITEMS SHALL BE: SILT FENCE_____L.F.
SILT BASIN_____C.Y.

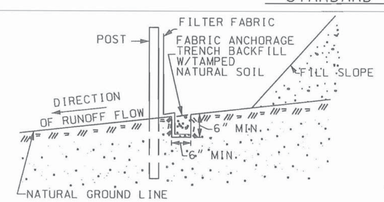




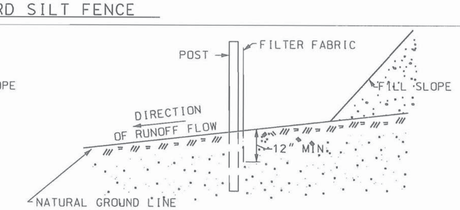
SILT FENCE CHECKS



STANDARD SILT FENCE

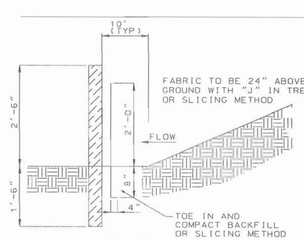


TRENCH METHOD

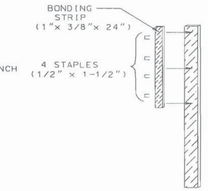


PNEUMATIC METHOD

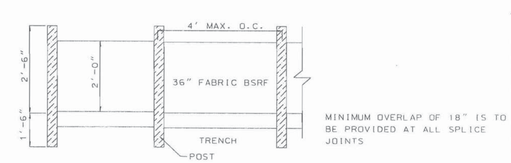
12 INCHES OF THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR BY AND WITH A TRENCHER. BOTH METHODS SHOWN HERE.



SIDE VIEW



POST (OAK) (1-3/4"x 1-1/4"x 48")



FRONT ELEVATION

ALTERNATE SILT FENCE - BELTED SILT RETENTION FENCE (BSRF)

NOTES:

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SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 04/01/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

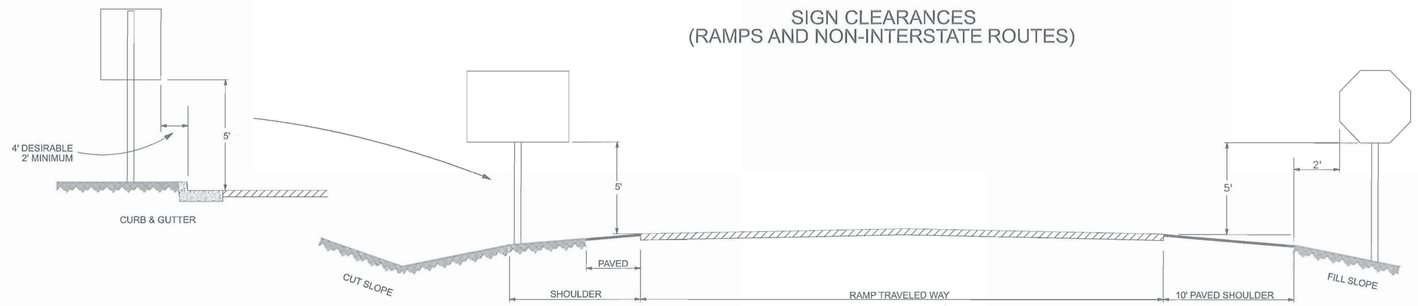
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

EROSION CONTROL DETAIL

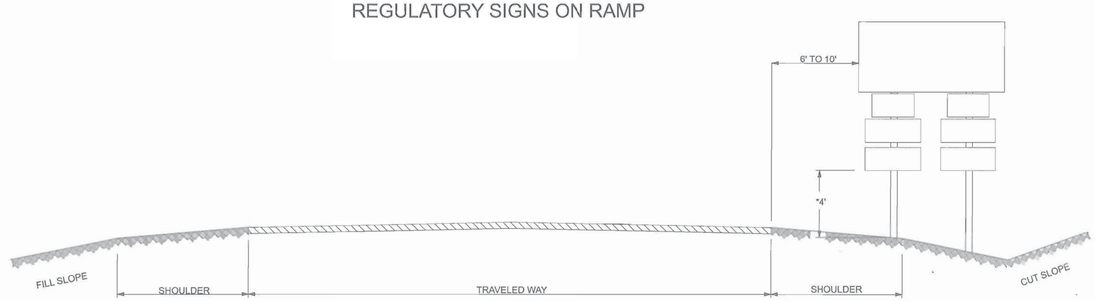
N.T.S.

TYPICAL INSTALLATION GUIDE (2)

SIGN CLEARANCES
(RAMPS AND NON-INTERSTATE ROUTES)

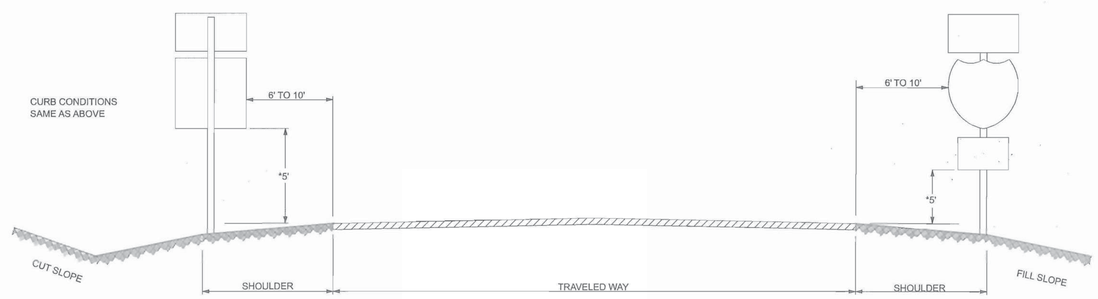


REGULATORY SIGNS ON RAMP



* (1) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

DESTINATION SIGNS ON RAMPS



* (1) USE 7' VERTICAL CLEARANCE WHERE PARKING OR PEDESTRIAN TRAFFIC IS PREVALENT.

(2) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

CROSS ROADS AND FRONTAGE ROADS

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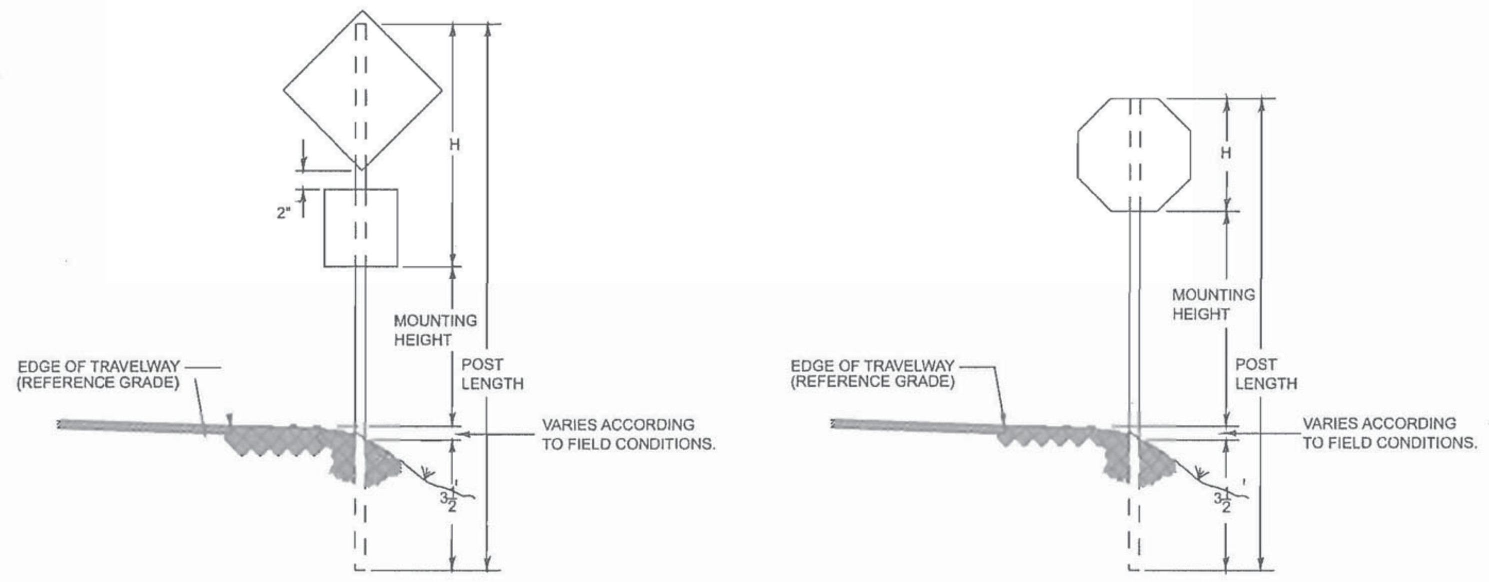
SIGN INSTALLATION DETAIL

N.T.S.

FLAT SHEET SIGN MOUNTING DETAILS



SIGNS MOUNTED ON FREEWAY RAMPS AND CONVENTIONAL ROADS

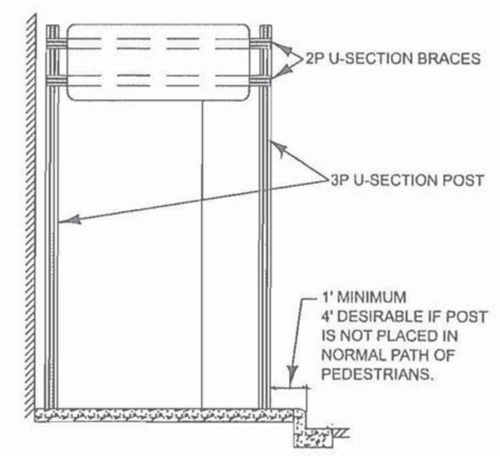
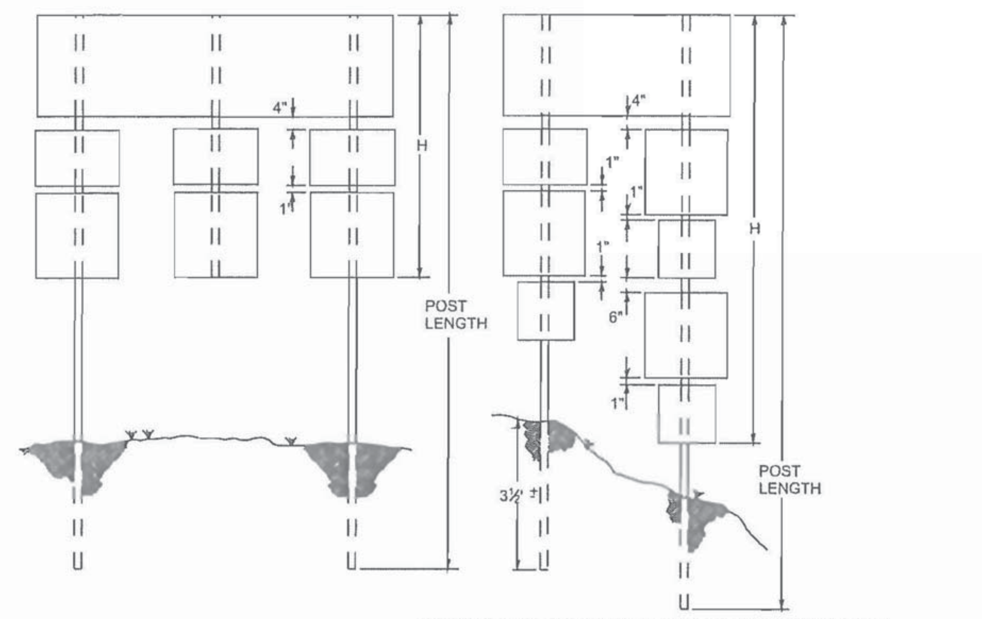


ILLUSTRATION OF SIGN ASSEMBLY SPANNING SIDEWALK

NOTE:

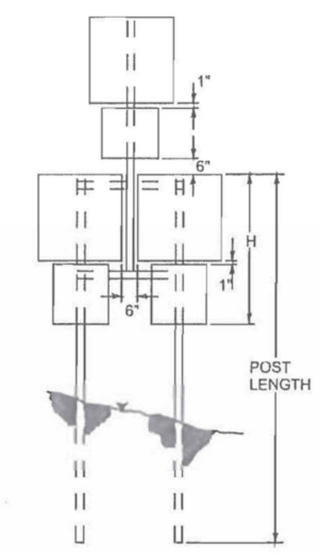
THE PURPOSE OF SPANNING THE SIDEWALK IS TO PROVIDE AN UNOBSTRUCTED WAY FOR PEDESTRIANS, AND AT THE SAME TIME LOCATE SIGNS WITHIN RIGHT-OF-WAY, WITH GOOD VISABILITY FOR TRAFFIC. EACH INSTALLATION MUST BE INDIVIDUALLY PLANNED AND CONSTRUCTED TO ACCOMPLISH THIS PURPOSE. THE PROJECT ENGINEER SHOULD APPROVE THE CONTRACTORS PLAN FOR SUPPORTING SIGNS SPANNING SIDEWALKS BEFORE THEY ARE ERECTED.



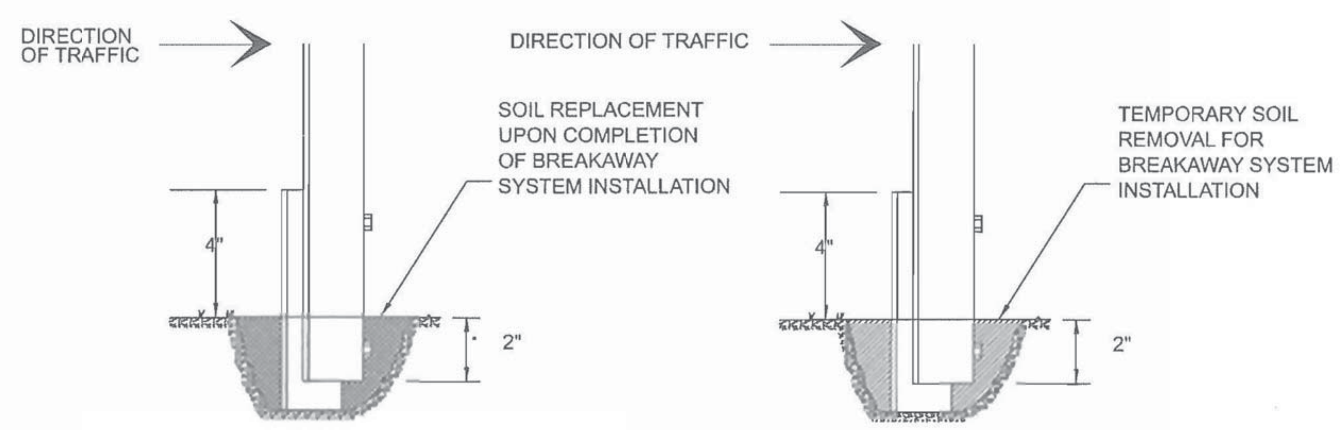
THIS TABLE GIVES APPROXIMATE POST LENGTH FOR NORMAL CONDITIONS. WHEN CUT OR FILL SECTIONS ARE SIGNIFICANT, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.

WHEN H IS	LESS THAN 2'	2' TO 2'-11"	3' TO 3'-11"	4' TO 4'-11"	5' AND LONGER
POST LENGTH (FT.) FOR 5' MOUNTING HGT.	10'	12'	13'	14'	H PLUS 10'

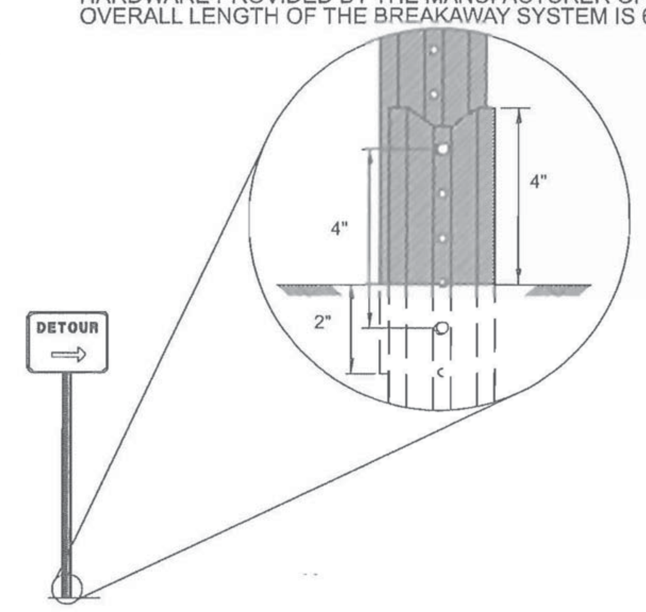
NOTE: ADD 2' TO POST LENGTH FOR 7' MOUNTING HEIGHT.



NOTE:
POST LENGTHS NOT SHOWN ON THIS SHEET ARE SHOWN ON THE PLAN SHEETS.



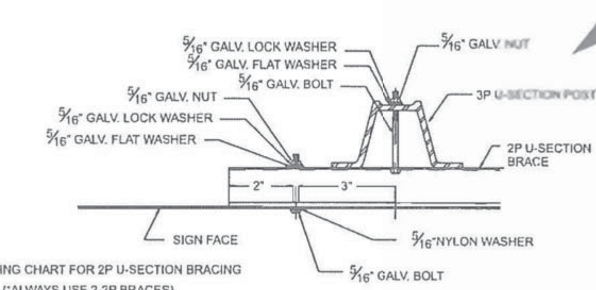
BOLTS MUST BE 4" APART. THE GROUND SUPPORT (STUB) SHALL NOT EXTEND HIGHER THAN 4" ABOVE THE GROUND. ATTACH THE SIGN SUPPORT TO THE BACK OF THE GROUND SUPPORT (STUB) WITH THE APPROPRIATE HARDWARE PROVIDED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM. OVERALL LENGTH OF THE BREAKAWAY SYSTEM IS 6".



DRIVE THE GROUND SUPPORT (STUB) APPROXIMATELY 30" TO 36" INTO THE GROUND AS SPECIFIED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM SO THAT NO MORE THAN 4" OF THE GROUND SUPPORT (STUB) EXTENDS ABOVE THE GROUND. REMOVE ENOUGH SOIL FROM AROUND THE GROUND SUPPORT (STUB) TO PERMIT ACCESS TO THE HOLES FOR THE INSERTION AND TIGHTENING OF THE LOWER BOLT OF THE BREAKAWAY SYSTEM. UPON COMPLETING THE INSTALLATION OF THE BREAKAWAY SYSTEM, REPLACE THE SOIL AND TAMP.

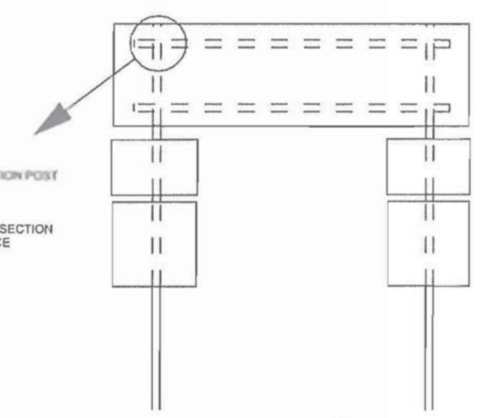
LAP SPLICE FOR U-SECTION POSTS

'D' SIGN BRACING



SPACING CHART FOR 2P U-SECTION BRACING
(*ALWAYS USE 2-2P BRACES)

SIGN WIDTH	BRACE LENGTH
72"	56"
78"	60"
84"	64"
90"	68"
96"	72"
102"	76"
108"	80"
114"	84"
120"	88"
126"	92"
138"	100"
144"	104"
150"	108"
156"	112"



1.) ALL "D" TYPE SIGNS ARE TO BE SUPPORTED BY 2 VERTICAL U-SECTION POSTS. ALL "D" TYPE SIGNS WHICH ARE 6' WIDE OR WIDER WILL BE HORIZONTALLY BRACED WITH 2, 2P U-SECTION POSTS. ADDITIONALLY, ANY ASSEMBLY OF SIGNS ATTACHED BETWEEN VERTICAL SUPPORTS WILL BE ATTACHED WITH A PRESCRIBED LENGTH OF U-SECTION POST.

2.) ALL 2P POSTS USED AS CENTER VERTICAL MEMBERS IN SIGN ASSEMBLIES SHALL HAVE HOLES ON 1" CENTERS FOR ENTIRE LENGTH.

SIZE & LENGTH OF U-SECTION POSTS FOR SINGLE SIGNS

POST QUANTITY, SIZE & LENGTH FOR INSTALLATIONS HAVING MORE THAN ONE SIGN ARE SHOWN ON THE PLANS.

SIGN NO.	NO. OF POSTS	POST SIZES				SIGN NO.	NO. OF POSTS	POST SIZES				SIGN NO.	NO. OF POSTS	POST SIZES				SIGN NO.	NO. OF POSTS	POST SIZES			
		5' MTG. HT.		7' MTG. HT.				5' MTG. HT.		7' MTG. HT.				5' MTG. HT.		7' MTG. HT.				5' MTG. HT.		7' MTG. HT.	
		LBS./FT.	LGTH.	LBS./FT.	LGTH.			LBS./FT.	LGTH.	LBS./FT.	LGTH.			LBS./FT.	LGTH.	LBS./FT.	LGTH.			LBS./FT.	LGTH.	LBS./FT.	LGTH.
R1-1-24	1	3P	12	3P	14	R11-1-24	1	3P	12	3P	14	W2-1-24	1	3P	12	3P	14	THE FOLLOWING TO BE MOUNTED AT 4' HT.					
R1-1-30	1	3P	12	3P	14	R11-1-36	2	3P	14	3P	16	W2-1-30	1	3P	13	3P	15	D10-1-12-XX	1	2P	10		
R1-1-48	2	3P	14	3P	16	R11-1-48	2	3P	12	3P	14	W2-1-36	1	3P	14	3P	16	D10-2-12-XX	1	2P	11		
R1-2-36	1	3P	12	3P	14	R11-5-36	2	3P	12	3P	14	W2-2-24	1	3P	12	3P	14	D10-3-12-XX	1	2P	12		
R1-2-48	2	3P	13	3P	15	R11-6-48	2	3P	12	3P	14	W2-5-30	1	3P	13	3P	15	THE FOLLOWING TO BE MOUNTED AT 6' HT.					
R2-1-24	1	3P	12	3P	14	R11-7-30	1	3P	12	3P	14	W3-1-36	1	3P	14	3P	16	R1-2-60	2	3P			
R2-5c-24	1	3P	12	3P	14	R18-1-30	1	3P	13	3P	15	W3-2-36	1	3P	14	3P	16	R4-3-48	2	3P			
R2-5c-48	2	3P	15	3P	17							W5-1-36	1	3P	14	3P	16	R6-4-48	2	3P			
R2-6-24	1	3P	12	3P	14							W9-1-36	1	3P	14	3P	16	R11-1-48	2	3P			
R4-1-24	1	3P	12	3P	14							W9-2-36	1	3P	14	3P	16	W13-2-48	2	3P			
R4-2-24	1	3P	12	3P	14	W1-1-30	1	3P	13	3P	15	W8-3-30	1	3P	13	3P	15						
R4-3-24	1	3P	12	3P	14	W1-1-36	1	3P	14	3P	14	W14-1-24	1	3P	12	3P	14						
R4-3-36	2	3P	14	3P	16	W1-2-30	1	3P	13	3P	15	W14-1-30	1	3P	13	3P	15						
R4-4-42	2	3P	14	3P	16	W1-2-36	1	3P	14	3P	16	W6-4-48	2	3P	14	3P	16						
R5-1-30	1	3P	12	3P	14	W1-3-30	1	3P	13	3P	15	W10-1-36	1	3P	13	3P	15						
R5-1-36	2	3P	13	3P	15	W1-3-36	1	3P	14	3P	16												
R5-1a-36	2	3P	12	3P	14	W1-4-30	1	3P	13	3P	15												
R5-10a-30	1	3P	13			W1-4-36	1	3P	14	3P	16												
R6-1-36	1	3P	10	3P	12	W1-5L-30	1	3P	13	3P	15												
R8-4-36	2	3P	12	3P	14	W1-6-48	2	3P	12	3P	14												
R8-8-42	2	3P	12	3P	14	W1-7-48	2	3P	12	3P	14												

NOTE:

POST LENGTHS SHOWN IN THIS CHART ARE GENERAL AND SHOULD BE USED FOR BID PURPOSES ONLY. CONTRACTOR IS REQUIRED TO VERIFY FIELD CONDITIONS TO DETERMINE EXACT LENGTHS OF POSTS NEEDED.

DELINEATOR POSTS SHALL BE 2P U-SECTION POST 7 ½' LONG.

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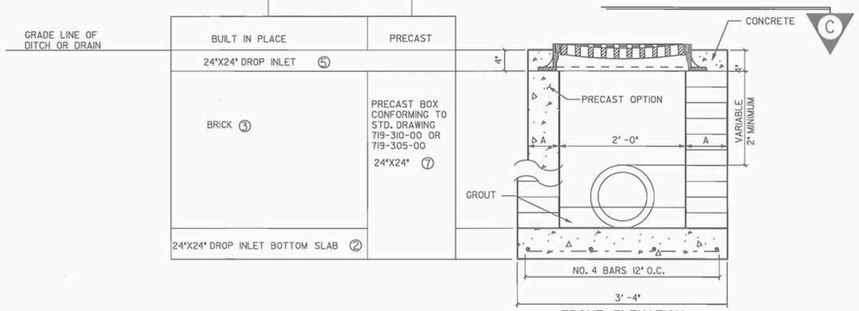
CONTRACTOR MAY USE PRECAST OR BUILT IN PLACE CONSTRUCTION AS NOTED OR COMBINE OPTIONS AS DESIRED. SEE QUALIFIED PRODUCT LIST 14 FOR MANUFACTURERS OF PRECAST ITEMS.

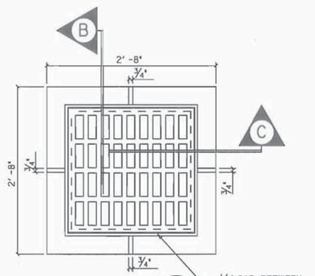
24"X24" DROP INLET

BUILT IN PLACE:
- ② 24"X24" DROP INLET BOTTOM SLAB (PC OR CIP 40"X40"X6")
- AND
- ③ BRICK WALLS (8")
- AND
- ⑤ 24"X24" DROP INLET FRAME AND GRATE

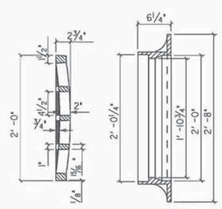
PRECAST:
- ⑦ PRECAST BOX CONFORMING TO STD DRAWING 719-310-00 OR 719-305-00 (2'X2'XH)
- AND
- ⑤ 24"X24" DROP INLET FRAME AND GRATE



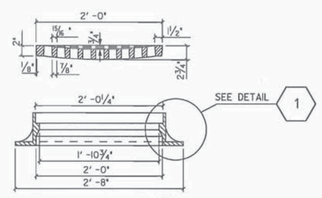
FRONT ELEVATION
DROP INLET



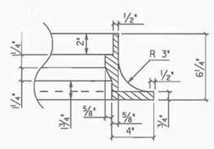
SECTION
FRONT ELEVATION
24"X24"DROP INLET
A



SECTION
SIDE ELEVATION
24"X24" FRAME AND GRATE
B



SECTION
FRONT ELEVATION
24"X24" FRAME AND GRATE
C



DETAIL
FRAME DETAIL
24"X24"
GRATE
1

TABLE 719-105B
STANDARD PC ITEMS FOR DROP INLET
(24"X24") DROP INLET BOTTOM SLAB (PC OR CIP 40"X40"X6") SEE ALSO STD. DRAWING 719-310-00 OR 719-305-00

TABLE 719-105A

24"X24" DROP INLET

DIMENSION	BUILT IN PLACE OPTION	PRECAST
A	8"	6"
B	24"	SEE STD. DRAWING 719-305-00 AND 719-310-00 (2'X2'XH) PRECAST BOX
C	3'-4"	SEE STD. DRAWING 719-305-00 AND 719-310-00 (2'X2'XH) PRECAST BOX

USE SHEETS 719-105-01 THROUGH 719-105-02 FOR THIS ITEM.
THIS DRAWING IS NOT TO SCALE

NOTES:

1. SEE 719-110-01 FOR DROP INLET (24"X 36"). FOR BUILT IN PLACE CONSTRUCTION OF THE CATCH BASIN WALLS, EITHER BRICK MASONRY (WALLS ONLY) OR CIP CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM OF CLASS 4000P CONCRETE SHALL BE USED.

2. CONCRETE WALLS ARE TO BE 6" THICK WITH A MINIMUM REINFORCING STEEL AREA 0.20 SQUARE INCHES PER FOOT UNLESS NOTED. FOR BRICK, THE WALLS ARE TO BE 8" THICK CONCRETE BRICK AND SIMILAR SOLID UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 55, GRADE S-11. THE INTERIOR DIMENSIONS ARE TO REMAIN AS SHOWN FOR EITHER TYPE OF CONSTRUCTION.

3. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT I S MET.

4. MORTAR SHALL BE TYPE S OR M.

5. REINFORCING STEEL SHALL BE ASTM A-706, LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M

6. SEE STANDARD DRAWING 719-550-00 FOR STEPS, WHICH ARE REQUIRED WHEN STRUCTURE DEPTH EXCEEDS 4'-6".

7.SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 12'. PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP OF THE DRAINAGE BOX BOTTOM SLAB TO THE TOP OF THE GROUND EXCEEDS 12'-0".

8. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC, (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER.

9. THE FLOOR OF THE BASIN MUST SLOPE IN THE DIRECTION OF THE OUTLET PIPE AS SHOWN AND THE INSIDE OF OUTLET PIPE SHALL BE FLUSH WITH FLOOR OF BASIN.

10. SEE STANDARD DRAWING 719-305-00 OR 719-310-00 FOR MAXIMUM PIPE DIAMETERS. THE PIPE SIZES SHOWN ARE MAXIMUM FOR BRICK AND PRECAST BOXES WHEN PIPE ENTERS PERPENDICULAR AND AT THE CENTER OF THE BOX WALL. CONTRACTOR SHOULD CONFIRM THAT PIPE USED FITS APPROPRIATELY INTO BOX.

FRAME AND GRATE NOTES:
11. ALL CASTINGS SHALL CONFORM TO AASHTO M 105, CLASS 35B AND THE SPECIFICATIONS OF AASHTO M 306

12. (a) STEEL GRATES AND FRAME MAY BE USED IN LIEU OF CAST IRON AS LONG AS THE LOADING (NOTE 12d) AND HYDRAULIC REQUIREMENTS ARE MET, AND ARE ON THE DEPARTMENT'S LIST OF APPROVED SUPPLIERS. (QUALIFIED PRODUCT LIST 45)
(b) STEEL GRATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111.
(C) STEEL GRATES AND FRAMES SHALL BE DIMENSIONED TO BE INTERCHANGEABLE WITH EACH PIECE OF THE CAST IRON GRATE AND FRAME SHOWN. STEEL GRATES MUST HAVE POSITIVE MEANS TO BE RETAINED IN THE FRAME.
(d) STRENGTH REQUIREMENTS OF STEEL GRATES AND FRAMES MUST MEET AASHTO M 306
(e) MANUFACTURERS DESIRING TO BE PLACED ON THE DEPARTMENT'S QUALIFIED PRODUCT LIST SHOULD CONTACT THE MATERIALS AND RESEARCH ENGINEER FOR PROCEDURES.

13. THE LONGEST DIMENSIONS OF THE OPENING IN THE IRON GRATE SHOULD BE ORIENTED IN THE DIRECTION OF FLOW. IF PRACTICABLE. THIS GRATE IS NOT SUITABLE FOR PEDESTRIAN TRAFFIC BECAUSE GRATE OPENINGS EXCEED 1/2".

14. AS SHOWN BY THIS DRAWING, THE FRAME IS SET LEVEL, BUT THE ENGINEER MAY SET SAME ON SLOPE AS REQUIRED BY LOCAL DRAINAGE CONDITIONS.

15. AFTER THE FRAME IS SET IN ITS FINAL POSITION, IT IS TO BE ENCASED WITH CONCRETE AS SHOWN BY DRAWING.

16. ALL MANUFACTURING PROCESSES FOR THE FRAME AND GRATE MUST OCCUR IN THE UNITED STATES.

PRECAST NOTES:
17. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX OR STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

18. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSRY . ALL LIFT HOLES SHALL BE GROUTED SHUT PRIOR TO COMPLETION OF THE INSTALLATION. ALL LIFTING METHODS MUST MEET OSHA REGULATIONS.

19. THE CONTRACTOR SHALL USE A SINGLE SOURCE MANUFACTURER CHOSEN FROM THE LIST ON QUALIFIED PRODUCT LIST 14 FOR PRECAST ITEMS ON THIS DRAWING.

20. FOLLOW QUALIFIED PRODUCT POLICY 14 IN ORDER TO BE LISTED ON QUALIFIED PRODUCT LIST 14.

21. CONTRACTOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR MODIFICATIONS TO THIS ITEM ON A PROJECT BY PROJECT BASIS. MODIFICATIONS TO THESE ITEMS WILL NOT BE LISTED ON ANY QUALIFIED PRODUCT LIST. SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC MODIFICATIONS TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER OF RECORD.

22. JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A 1/2" GROUT LIFT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (QUALIFIED PRODUCT LIST 13.)

PRECAST INSTALLATION NOTES:
23. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMMODATE ELEVATIONS OF ALL PIPES AND REQUIRED BOX TOP ELEVATION.

24. PLACE AND LEVEL PRECAST BOX OR SLAB.

25. PIPES SHALL BE INSTALLED AND GROUTED IN PLACE.

26. PIPES AND BOX SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS.

27. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING. ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST SHALL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCDOT.

28. THE CONTRACT UNIT PRICE FOR DROP INLETS SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS, (BUILT IN PLACE OR PRECAST), AND WORK INCIDENTAL TO THE CONSTRUCTION OF THE STRUCTURE COMPLETE IN PLACE AS SHOWN, INCLUDING THE CURB AND GUTTER, IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

29. PRECAST CONCRETE CIRCULAR STRUCTURES ARE REQUIRED FOR THE FOLLOWING APPLICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL PROVISIONS.

(a) ON DRAINAGE STRUCTURES WITH A DEPTH EQUAL TO OR GREATER THAN 12 FEET.

(b) ON DRAINAGE STRUCTURES WHERE THE FLOW LINE ELEVATION OF THE INLET PIPE IS EQUAL TO OR HIGHER THAN THE INSIDE TOP (SOFFIT) OF THE OUTLET PIPE.

(c) AS REQUIRED BY THE PROJECT PLANS.

30. THE PAY ITEM SHALL BE:
DROP INLET (24"X24")_____EA

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DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BOLT

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3228 W. MONTAGUE AVENUE
NORTH CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

DROP INLET (24" X 24") DETAIL

N.T.S.

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

SEE QUALIFIED PRODUCT LIST 14 FOR MANUFACTURERS OF PRECAST ITEMS.

BUILT IN PLACE	① BOTTOM SLAB (CIP VARIABLE OR PC 100" DIA.X 6") AND ② BRICK WALLS (8") (MAX 12' DEPTH)
PRECAST	③ 48" DIA. CIRCULAR DRAINAGE BASE (CONFORMING TO STD. DRAWING 719-420-00) AND ④ 48" DIA. CIRCULAR RISER (CONFORMING TO STD. DRAWING 719-420-00) AND ⑤ MANHOLE PC ECCENTRIC CONE

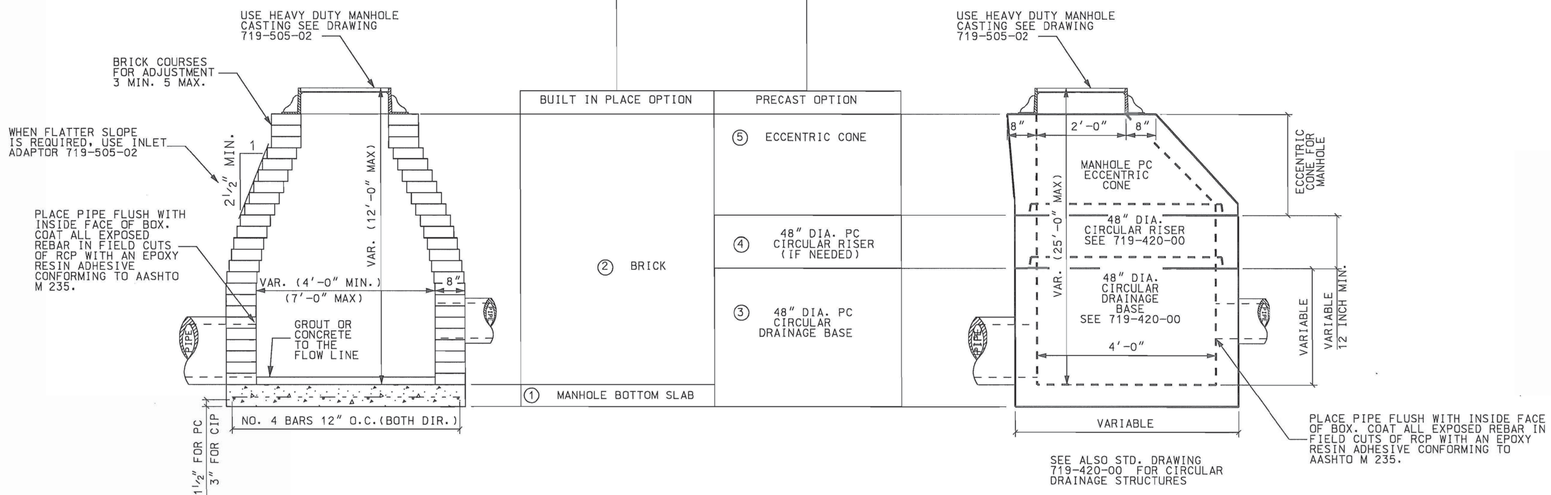

TABLE 719-505A PRECAST ITEMS
MANHOLE PC BOTTOM SLAB (100" DIA. X 6")
MANHOLE PC ECCENTRIC CONE
SEE ALSO 719-505-03 & 719-420-00

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SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/01/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD

SINCE 1954

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

MANHOLE DETAIL

N.T.S.

NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS

2. ALTERNATE PIPE END TREATMENTS ARE ALSO AVAILABLE. SEE STANDARD DRAWING SECTION 719-600-00.

3. PAY ITEMS:
8041xxx RIP-RAP (CLASS _) - _____ TON
8048xxx GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP(CLASS 2)TYPE _ - ____ SY

NOTES:

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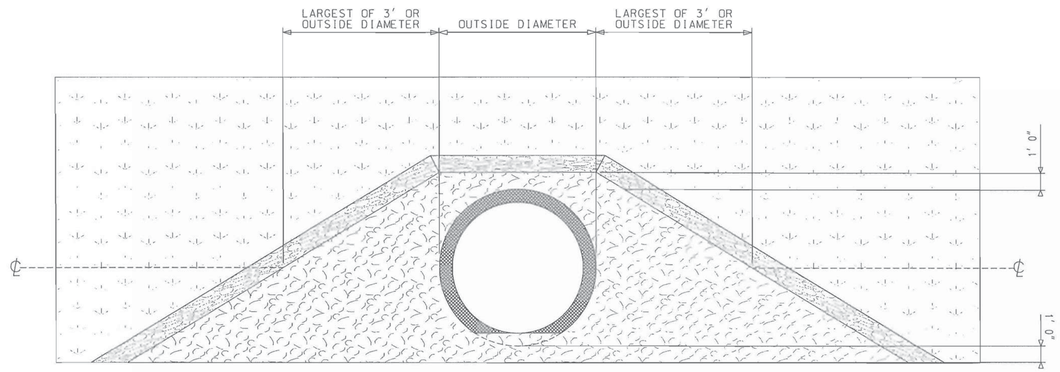
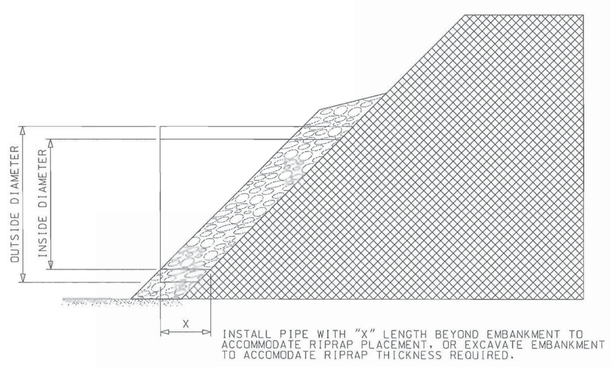
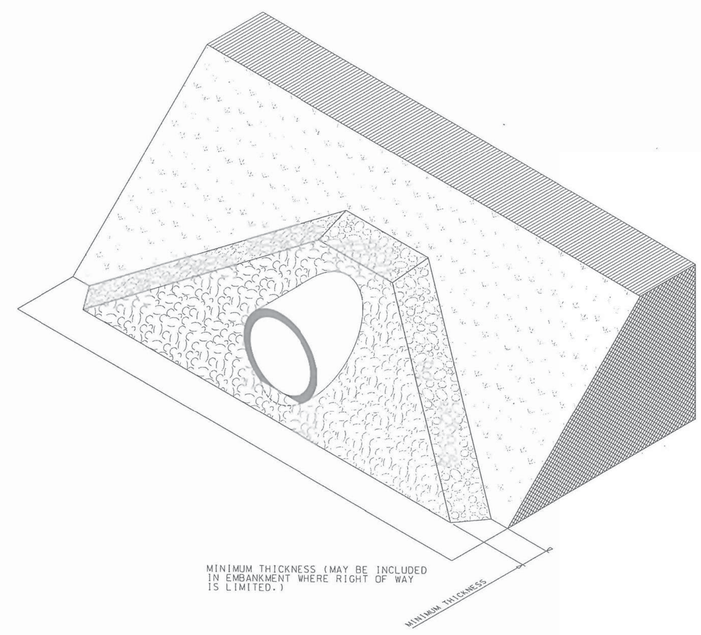


CHART 804-305A RIPRAP PLACEMENT			
MINIMUM CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"





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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

RIPRAP PIPE DETAIL

N.T.S.

NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS.

2. SEE STANDARD DRAWINGS SECTION 719-600-00 FOR ADDITIONAL PIPE END TREATMENT OPTIONS.

3. THE PAY ITEMS SHALL BE:
RIPRAP CLASS _____ _____TON
GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS I) TYPE _____ S.Y.

CHART 804-310A
RIPRAP PLACEMENT

MINIMUM CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"

NOTES:

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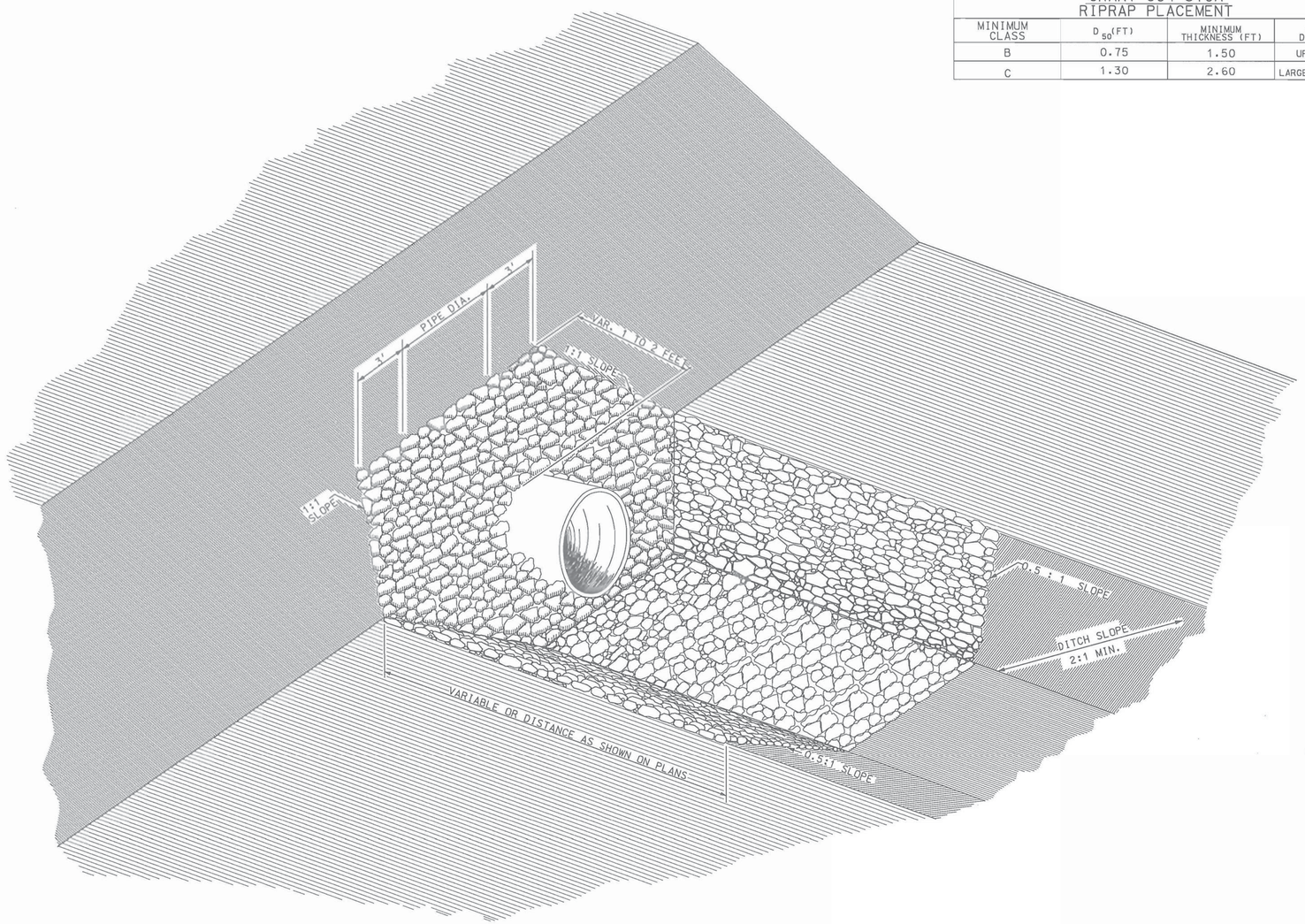
2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM
RIPRAP DITCH DETAIL

N.T.S.

NOTES:

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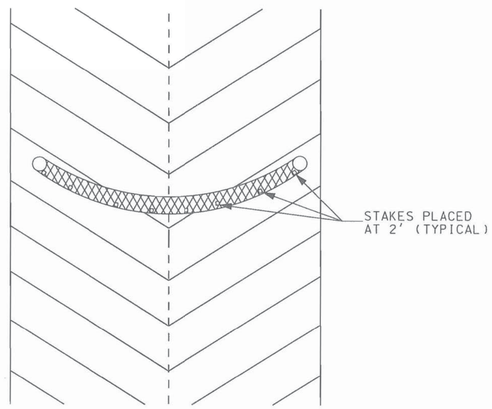
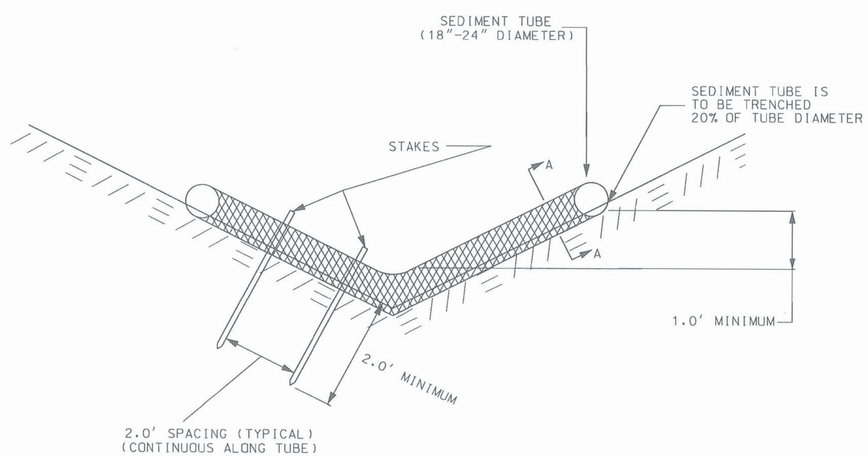


TOP VIEW
OF DITCH



END VIEW
OF DITCH

NOTES:

1. SEDIMENT TUBE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 815 OF THE SCDOT STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (LATEST EDITION), AND MUST BE LISTED ON SCDOT QUALIFIED PRODUCT LIST NUMBER 57. SEDIMENT TUBES MUST MEET THE CRITERIA OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS BEFORE BEING LISTED ON QPL, AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.

2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE SEDIMENT TUBES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18-24 INCHES IN DIAMETER AND ARE TO BE TRENCHED TO A DEPTH OF 20% OF TUBE DIAMETER. LAY THE SEDIMENT TUBE FLAT IN THE U-SHAPED TRENCH AND COMPACT THE UPSTREAM SEDIMENT TUBER SOIL INTERFACE. PLACE AND ANCHOR THE SEDIMENT TUBE ENDS SO THEY ARE POSITIONED UPSTREAM OF THE SEDIMENT TUBE CENTER POINT. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE TRENCHING.

3. SEDIMENT TUBE SHALL BE INSTALLED IMMEDIATELY AFTER GRADING AND CONSTRUCTION. SEDIMENT TUBE SHALL BE MAINTAINED DURING SUBGRADE AND BASE PREPERATION UNTIL BASE COURSE IS COMPLETE. SEDIMENT TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION.

4. SEDIMENT TUBES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW AND EXTEND UP SIDE SLOPES A MINIMUM OF 1 FOOT ABOVE DESIGN FLOW DEPTH. SPACE TUBES ACCORDING TO THE FOLLOWING TABLE:

SLOPE	MAXIMUM SEDIMENT TUBE SPACING
LESS THAN 2%	150 FEET
2%	100 FEET
3%	75 FEET
4%	50 FEET
5%	40 FEET
6%	30 FEET
GREATER THAN 6%	25 FEET

5. STAKE SEDIMENT TUBES FOR DITCH CHECKS USING STAKES WITH A MINIMUM MEASURED DIMENSION OF ¾" X ¾" AND A MAXIMUM MEASURED DIMENSION OF 2" X 2", OR USING STEEL POSTS(1.25lbs/linear foot)A MINIMUM OF 4' IN LENGTH. USE STEEL POSTS WITHOUT A KICK PLATE AND PAINTING IS NOT REQUIRED. SPACE POSTS OR STAKES ON 2' CENTERS AND DRIVE THEM INTO THE GROUND TO A DEPTH OF 2' OR TO THE MAXIMUM EXTENT PRACTIBLE. INSTALL THE STAKES ON THE DOWNSTREAM THIRD OF THE SEDIMENT TUBE. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MOR THEN 18 POUNDS PER FOOT DO NOT REQUIRE STAKING.

6. SELECT PROPER LENGTH OF TUBE TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF DRAINAGE AREA. ONE CONTINUOUS LENGTH IS PREFERRED COMPARED TO TWO OVERLAPPING TUBES. IF NECESSARY, SEDIMENT TUBES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.

7. INSTALL SEDIMENT TUBES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP SEDIMENT TUBES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.

8. INSPECT SEDIMENT TUBES AFTER INSTALLATION FOR GAPS UNDER THE SEDIMENT TUBES AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF SEDIMENT TUBES. INSPECT SEDIMENT TUBES EVERY 7 DAYS. REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR SEDIMENT TUBES. REMOVE ALL SEDIMENT DEPOSITS THAT IMPAIR THE FILTRATION CAPABILITY OF SEDIMENT TUBES WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.

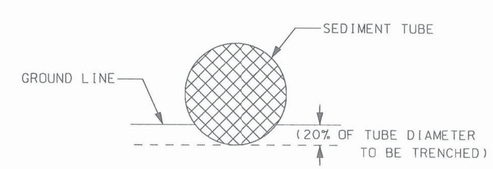
9. REMOVE AND/OR REPLACE INSTALLED SEDIMENT TUBES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE SEDIMENT TUBES WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANFACTURER'S REPRESENTATIVE. GATHER SEDIMENT TUBES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS, INERT MATERIAL.

10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF SEDIMENT TUBES.

11. CLEAN OUT OF TUBES WILL BE PAID FOR AS SILT BASIN IN C.Y.

12. PAYMENT SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, MAINTENANCE, AND INCEDENTALS NECESSARY TO COMPLETE WORK.

13. PAY ITEM SHALL BE:
SEDIMENT TUBE ..... LF



SECTION A-A

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BALL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM
3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SEDIMENT TUBE DETAIL

N.T.S.

NOTES:

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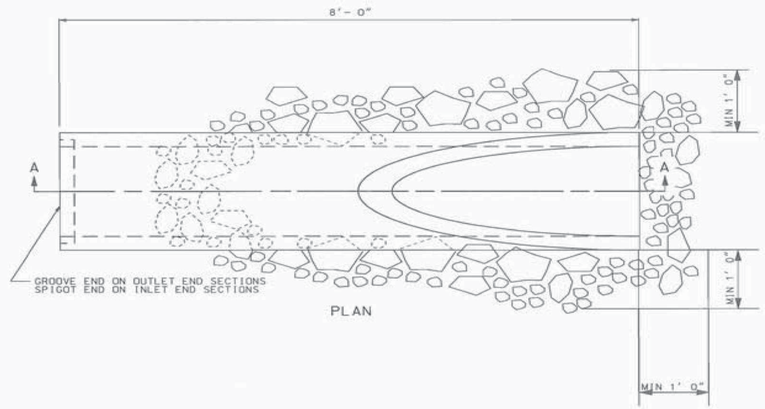
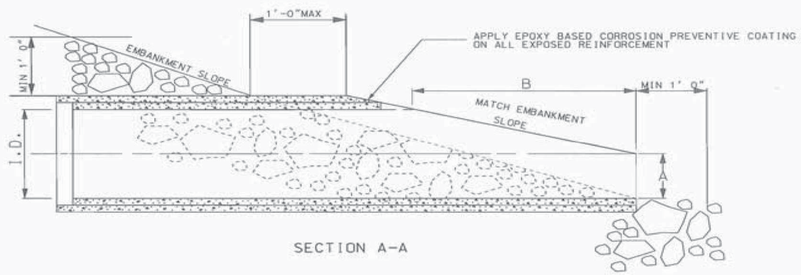


PLAN



SECTION A-A

NOTES:

1. BEVELED END SECTIONS WILL BE MANUFACTURED IN ACCORDANCE WITH SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATIONS SC-M-714. THESE SPECIAL PIPE SECTIONS WILL BE MADE DURING THE MANUFACTURING OF OTHER STATE APPROVED REINFORCED CONCRETE PIPE.

2. THE PIPE BEVEL MAY BE SAWED IN THE FIELD IN LIEU OF BEING MANUFACTURED. IN FIELD SAWING, THE PIPE OPENING MAY COME TO A POINT AT THE PIPE CREST RATHER THAN A RADIUS IF APPROVED BY THE PIPE MANUFACTURER ALTERNATE PIPE FOR SIDELINES MUST HAVE EACH END BEVELED TO MATCH THE ADJACENT SLOPES.

3. PLACE RIPRAP AS DIRECTED BY THE RCE.

4. PAYMENT FOR BEVELED END SECTIONS WILL BE AS DIRECTED IN SC-M-714.

5. THE PAY ITEM SHALL BE:

7199100 BEVELING OF PIPE ENDS_____EA.
8041XXX RIPRAP(CLASS_)_____TON
8048XXX GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP(CLASS 2) TYPE____S.Y.

CHART 719-610B
RIPRAP PLACEMENT

CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)
B	0.75	1.50
C	1.30	2.60

TABLE 719-610A

		EMBANKMENT SLOPE				
		6:1	5:1	4:1	3:1	2:1
		6	5	4	3	2
I.D.(IN)	A(IN)	B (BEVELED LENGTH) (IN)				
15	6	54	45	36	27	18
18	9	54	45	36	27	18
24	10	NA	70	56	42	28
30	12	NA	NA	72	54	36
36	15	NA	NA	NA	63	42
42	20	NA	NA	NA	66	44
48	24	NA	NA	NA	72	48
54	24	NA	NA	NA	NA	60
60	24	NA	NA	NA	NA	72

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

END TREATMENT
(RCP BEVELED END)

N.T.S.

NOTES:

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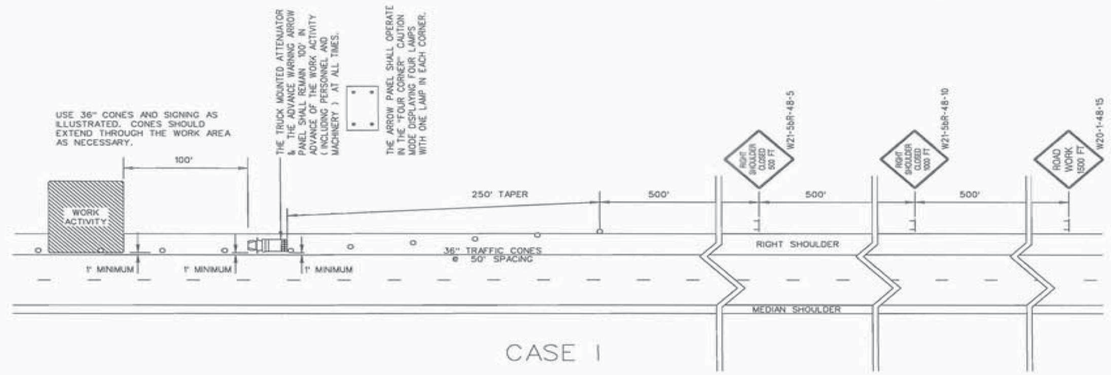
2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

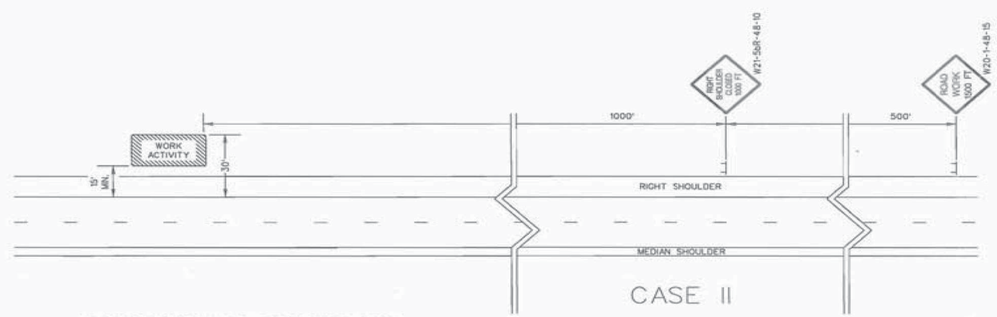
GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS: ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
9. THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.

    CASE I: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.

    CASE II: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
12. CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
13. PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
14. FOR A CASE I SCENARO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
15. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE I SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE I CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE I CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE II CLOSURE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.





PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVM) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

O 36" TRAFFIC CONES

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BULL

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SHOULDER CLOSURE

N.T.S.

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

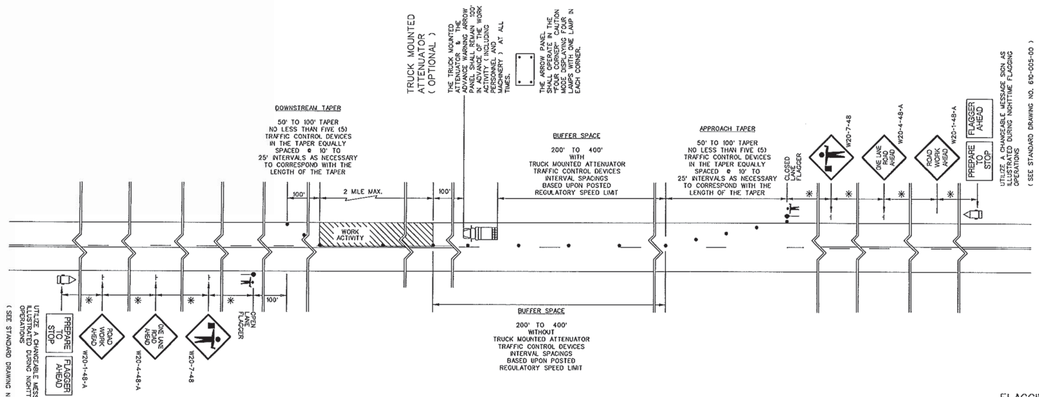

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* < 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

FLAGGING OPERATIONS GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

APPROACH TAPER - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.

DOWNSTREAM TAPER - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.

FLAGGER STATION - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.

CLOSED LANE FLAGGER - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.

OPEN LANE FLAGGER - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.

BUFFER SPACE - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCROACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.

WORK ACTIVITY AREA - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.

LIMITS of the WORK ACTIVITY AREA - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.

APPROACH LANE - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

DEPARTURE LANE - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

MAINLINE APPROACH - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.

SIDE ROADS - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.

LIMITS of the INTERSECTION - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT, WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADII BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI/ ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" AND THIS ENCROACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCROACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCROACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCROACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREINBEFORE IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCROACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* ≤ 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/01/19 No. 20214 GEORGE TILLEY BULL

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

LANE CLOSURE

N.T.S.

GENERAL NOTES:

1. THESE ARE APPLICABLE FOR INLETS WITH PEAK FLOW RATES LESS THAN 3 CFS WHERE THE INLET DRAIN AREA HAS GRADES LESS THAN 5%. FLOW VELOCITIES TO THE INLET MAY NOT EXCEED 3 FEET PER SECOND. USE THESE WHERE OVERFLOW CAPACITY IS NOT REQUIRED TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

INSTALLATION:

1. HARDWARE FABRIC, OR COMPARABLE WIRE MESH, WITH A MAXIMUM OF 0.5 INCH X 0.5 INCH OPENINGS SHALL BE USED AS THE SUPPORTING MATERIAL AND SHALL BE EXTENDED A MINIMUM 6 INCHES INTO THE GROUND.

2. POSTS SHALL BE 1.25 LB./LINEAR FOOT STEEL POSTS WITH A MINIMUM POST LENGTH OF 48 INCHES. THE HEIGHT OF THE HARDWARE FABRIC ABOVE GRADE SHALL BE A MINIMUM OF 18 INCHES.

3. THE STEEL POSTS SHALL BE SPACED A MAXIMUM OF 2 FEET APART AROUND THE PERIMETER OF THE INLET AND DRIVEN INTO THE GROUND A MINIMUM OF 18 INCHES.

4. HEAVY DUTY WIRE TIES SPACED A MAXIMUM OF 6 INCHES APART SHALL BE USED TO ATTACH THE HARDWARE FABRIC MATERIAL TO THE STEEL POSTS.

5. THE STONE SHALL CONSIST OF AGGREGATE NO. 5 OR NO. 57 WASHED STONE AND SHALL EXTEND TO A MINIMUM HEIGHT OF 12 INCHES AND SHALL NOT EXCEED 24 INCHES AGAINST ALL 4 SIDES OF THE HARDWARE FABRIC.

INSPECTION AND MAINTENANCE:

1. INSPECTIONS SHOULD BE MADE EVERY SEVEN (7) CALENDAR DAYS. ANY NEEDED REPAIRS SHOULD BE HANDLED IMMEDIATELY.

2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE STRUCTURE. IF A SUMP IS USED, SEDIMENT SHOULD BE REMOVED WHEN IT FILLS APPROXIMATELY 1/3 THE DEPTH OF THE HOLE. MAINTAIN THE POOL AREA, ALWAYS PROVIDING ADEQUATE SEDIMENT STORAGE VOLUME FOR THE NEXT STORM. CLEANING INLET STRUCTURE FILTERS IS PAID FOR EACH (EA) FILTER CLEANED OF DEPOSITED SEDIMENT FROM THE AREA ADJACENT TO EACH INLET STRUCTURE FILTER.

3. IF THE STONE BECOMES CLOGGED WITH SEDIMENT, THE STONES MUST BE PULLED AWAY FROM THE INLET AND CLEANED OR REPLACED. SINCE CLEANING OF GRAVEL AT A CONSTRUCTION SITE MAY BE DIFFICULT, AN ALTERNATIVE APPROACH WOULD BE TO REMOVE THE CLOGGED STONE AS FILL AND PUT FRESH STONE AROUND THE INLET. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS WORK.

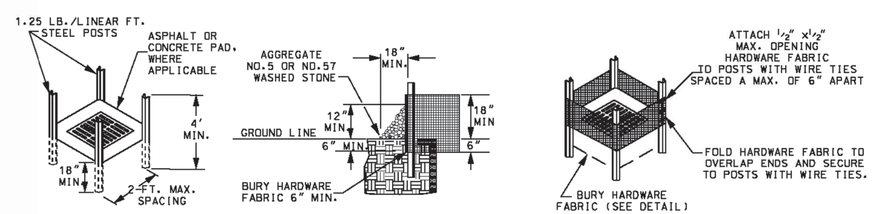
4. STORM DRAIN INLET PROTECTION STRUCTURES SHOULD BE REMOVED ONLY AFTER THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT, AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO DRAIN. STABILIZE ALL BARE AREAS IMMEDIATELY.

5. THE PAY ITEMS SHALL BE:
   8156210 INLET STRUCTURE FILTER TYPE B_____EA
   8154155 CLEANING INLET STRUCTURE FILTERS_____EA

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



POST INSTALLATION DETAIL

STONE AND HARDWARE FABRIC INSTALLATION DETAIL

HARDWARE FABRIC AND STONE INLET PROTECTION

TYPE B
MEDIUM FLOW, LOW VELOCITY INLET FILTERS

THIS DRAWING IS NOT TO SCALE

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM
329 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

INLET FILTER TYPE B

N.T.S.

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
Encroachment Permit

Permit No : 222751
Permit Decision Date : 4/10/2019
Expiration Date : 4/10/2020

Type Permit : ROAD CONNECTION (NON DRIVEWAY)

Location:

District	Work County	Type	Route	Aux	Begin MP	End MP
5	Georgetown, SC	S-	46	None	2.254	2.254

Contact Information

Applicant: GeorgetownCountyDepartmentofPublicServices Phone:
Contact: Joseph Garrison
Address: 108 Screven Street,
City: Georgetown State: SC Zip: 29440

Comments

Partridge Lane (Local) at Waverly Road (S-46), approximately 850 feet south of the intersection of Waverly Road (S-46) and Kings River Road (S-255).

Special Provisions:

0004 - SCDOT SHALL BE NOTIFIED WHEN WORK DEFINED IN THE PERMIT STARTS AS WELL AS WHEN THE WORK IS COMPLETED. REFERENCE SHALL BE MADE BY PERMIT NUMBER.

0005 - APPLICANT SHALL PROVIDE TO THE DEPARTMENT THE OPPORTUNITY OF ATTENDING ANY PRE-CONSTRUCTION MEETING PRIOR TO THE BEGINNING OF WORK.

0123 - ALL WORK PERFORMED IN CONNECTION WITH THIS PERMIT SHALL CONFORM TO THE SCDOT "A POLICY FOR ACCOMODATING UTILITIES ON HIGHWAY RIGHT-OF-WAY" MOST CURRENT EDITION.

0301 - THE DITCHES AND/OR SHOULDERS DISTURBED DURING THE INSTALLATION SHALL BE RE-ESTABLISHED TO PROPER GRADE, ORIGINAL CROSS SECTION, STABILIZED, AND ALL DRAIN PIPES CLEARED.

0306 - TRAFFIC CONTROL, LIGHTS, SIGNS AND FLAG-MEN WILL BE FURNISHED BY APPLICANT AND WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

0310 - FIELD CHANGES, IF NECESSARY, MUST BE APPROVED IN WRITING BEFORE ACTUAL CONSTRUCTION OF PROPOSED CHANGES.

0312 - THE PERMITTEE SHALL HOLD THE DEPARTMENT HARMLESS FOR DAMAGES TO BOTH UPSTREAM AND DOWNSTREAM PROPERTIES.

9999 - See Attached for Additional Special Provisions

Healthy People. Healthy Communities

May 13, 2019

Ray Funnye
Georgetown County
2236 Browns Ferry Rd
Georgetown, SC 29440

RE: Willard Loop, Georgetown County
NPDES Coverage Number: SCR10Z3EY

Dear Ray Funnye;

The Department of Health and Environmental Control (Department or DHEC) has approved the Stormwater Pollution Prevention Plan (SWPPP) for the referenced project on **May 13, 2019**. Based on your submission of the Notice of Intent (NOI) and in accordance with the NPDES General Permit for Stormwater Discharges from Construction Activities (CGP), this project has been granted coverage under the CGP. This project's general permit coverage number is **SCR10Z3EY**. The total disturbed area for this site is **2.79 acres**.

See attached DHEC Office of Ocean and Coastal Resource Management (DHEC-OCRM) certification dated January 16, 2019 for additional conditions related to the Coastal Zone Consistency determination.

The CGP can be downloaded at the following website: http://www.scdhec.gov/Environment/docs/CGP-permit.pdf or you may request a copy from us via email (stormwatercgp@dhec.sc.gov). You are responsible for ensuring your contractor(s) complies with the approved SWPPP and the minimum requirements of the CGP. Also, you are responsible for overall compliance with the Storm Water Management and Sediment Reduction Act of 1991 (1991 Act), SC Pollution Control Act, and the Federal Clean Water Act (CWA). Failure to comply with the approved SWPPP or applicable statutes and regulations may result in enforcement actions.

You must notify the local EA Office prior to starting any land-disturbing activity. The address and telephone number are as follows:

Pee Dee EA Myrtle Beach
927 Shine Avenue
Myrtle Beach, SC29577
843-238-4378

Inspections of this site must be performed by qualified personnel as described in Section 4.2.E of the CGP.

You should be aware that this approval is only applicable for the SWPPP that was submitted for this project. Any additional construction or land disturbing activity beyond the scope of the approved plans is not authorized. Any future work for this project not shown on the stamped, approved plans will require that you submit another site plan for review and approval. All major modifications require review and approval by the Department. Minor modifications to the approved SWPPP may be made by the SWPPP preparer and do not require review and approval by the Department; these changes should be signed and dated by the SWPPP

preparer. If you have a question about whether a modification is major or minor, contact the Coastal Stormwater Permitting Section at (843) 953-0200.

A copy of the stamped, approved SWPPP (including a copy of the CGP, contractor certifications, inspection records, rainfall data, etc.), NOI, and CGP coverage letter from DHEC must be retained and available at the construction site (or accessible within 30 minutes during normal business hours) from the date of commencement of construction activities to the date of final stabilization. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance at the construction site.

All contractors who will conduct land-disturbing activities at the site must complete a Contractor Certification Form. You are also responsible for listing all contractors in the SWPPP and for holding a pre-construction conference with each contractor before they can conduct land-disturbing activity at the site.

The Department may conduct periodic inspections of your site. Any violations found during these inspections may result in enforcement action.

This NPDES coverage should be terminated by the permittee when the conditions listed in Section 5.1 of the CGP have been met. You must submit a Notice of Termination (NOT) to cancel your NPDES coverage under the CGP. Please see section 5.1 of the CGP for additional information required to be submitted with the NOT.

You are responsible for obtaining any other federal, state, or local permit that may be required for this project. In particular, any permits through the U.S. Army Corps of Engineers for the placement of fill material in Waters of the United States. Please note we have not sent a copy of this letter to any county or city building official. You must send a copy of this letter to these agencies, if necessary.

If material excavated during construction activities leaves the site, a mine operating permit may be needed. You are responsible for contacting the Mining and Reclamation Section to determine if a mining permit is required for the site. The Mining and Reclamation Section can be reached at (803)898-1362 or via e-mail at AskMines@dhec.sc.gov.

Please see the enclosed "Guide to Board Review" document for information about the procedures for appealing this NPDES coverage.

If you have any questions or cannot access the referenced websites, please call me at 843-953-0238.

Sincerely,

Richard V Geer
Bureau of Water, Coastal Stormwater Permitting Section
1362 McMillan Ave, Suite 400, Charleston SC 29405

cc: G. Tilley Bull, David & Floyd, Inc.
Pee Dee EA Myrtle Beach

NOTICE OF INTENT (NOI)

For Coverage(s) of Primary Permittees Under South Carolina NPDES General Permit For Stormwater Discharges From Construction Activities SCR100000

(Maintain As Part of On-Site SWPPP)

For Official Use Only
File Number: _____
Permit Number: SCR10_____
Submittal Package Complete: _____

*Submission of this Notice of Intent constitutes notice that the Applicant identified in Section II intends to be authorized as a Primary Permittee in the state of South Carolina under NPDES General Permit SCR1000000. **Fees required for review and NPDES coverage of each application type are as listed on page 2 of the instructions.***

SOUTH CAROLINA
DEPT OF HEALTH AND ENVIRONMENTAL CONTROL
ENVIRONMENTAL QUALITY CONTROL
STORMWATER PERMITTING SECTION
APPROVED - FOR CONSTRUCTION ONLY
DHEC PERMIT #: SCR1023FY
FILE #: _____
DATE ISSUED: _____
BY: _____

Date: 04/05/2019
Project/Site Name: Willard Loop County: Georgetown
(Modification or Change of Information Only) Prior Approved NPDES Permit or File Number: _____

Do you want this project to be considered for the Expedited Review Program (ERP)? ☐ Yes or ☑ No (See instructions)

I. Notice of Intent (NOI) Application Type(s)

A. **Project (Application/Review) Type(s)** (Select ALL that apply):
- ☑ New Project (Initial Notification) Ongoing Project: ☐ Permitted or ☐ Un-Permitted
- ☐ Late Notification ☐ Low Impact Development (LID) or Project Design Above Regulatory Requirements
- ☐ New Owner/Operator or Company Name Change **(see instructions, attach Form A (Transfer of Ownership))**
- ☐ Major Modification: **(see instructions, attach Form B (Major Modifications))**
- ☐ MS4 Project Review
- ☑ Ocean and Coastal Resource Management (OCRM) Review
- ☐ Change of Information/Other (Specify): _____

B. If Applicable, identify the entity designated as **MS4 Reviewer and MS4 Operator** (i.e., Lexington County, City of Greer, etc.): **MS4 Reviewer** _____ **MS4 Operator** _____

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Dam Safety, Stormwater Permitting Division

II. Primary Permittee Information

☐ Change of Information

☐ Person or ☐ Company | If a Company, are you a ☐ Lending Institution or ☑ Government Entity?
Company EIN **(If applicable)**: EIN: 57-6000353

A. **Primary Permittee Name:** Georgetown County
Mailing Address: 2236 Browns Ferry Road City: Georgetown State: SC Zip: 29440
Phone: 843.545.3460 Fax: 843.545.3486 Email Address: rcfunnye@georgetowncountysc.org

B. **Contact /ODSA Name** (If different from above OR if owner is a company): Stephen Williams
Mailing Address: 2236 Browns Ferry Road City: Georgetown State: SC Zip: 29440
Phone: 843.545.3438 Fax: 843.545.3486 Email Address: swilliams@gtcounty.org

C. **Property Owner Name** (If different from above): _____
Mailing Address: _____ City: _____ State: _____ Zip: _____
Phone: _____ Fax: _____ Email Address: _____

III. Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) Preparer Information

☐ Change of Information

A. **C-SWPPP Preparer Name:** G. Tilley Bull
B. **Registered Professional** ☑ Engineer ☐ Landscape Architect ☐ Tier B Land Surveyor **S. C. Registration #:** 20214
C. **Company/Firm Name:** Davis & Floyd, Inc. **S. C. COA #:** 00538
Mailing Address: 3229 West Montague Ave. City: Charleston State: SC Zip: 29418
Phone: 843.554.8602 Fax: 843.747.6485 Email Address: tbull@davisfloyd.com

IV. Project/Site Information

☐ Change of Information

A. **Type of Construction Activity(ies)** (Select ALL that apply):
- ☐ Commercial ☐ Industrial ☐ Institutional ☐ Mass Grading ☑ Linear ☐ Utility/Infrastructure
- ☐ Residential: Single-family ☐ Residential: Multi-family ☐ Multi-use (Commercial & Residential)
- ☐ Site Preparation (No New Impervious Area) ☐ Other (Specify) _____

B. **Site Address/Location** (street address, nearest intersection, etc.) Willard Loop at Pleasant Hill Dr (SC 513)
City/Town (If in limits): _____ Zip Code: _____
Latitude: 33 ° 40 ' 29 " N Longitude: - 79 ° 23 ' 33 " W (Source): ☐ GPS ☑ Web Site: Google Earth
Tax Map Number (s) (List all): Georgetown County Right-of-Way

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C. Is this site located on **Indian Land?** ☐Yes ☑No

D. **Proposed Start Date:** 05/01/2019 **Proposed Completion Date:** 05/01/2020

E. **Disturbed Area** (nearest tenth of an acre): 2.79 **Total Area** (acres): 5.64

F. **Modification Only:**(nearest tenth of an acre): **Disturbed Area: Current (Approved) Area:** _____ **Disturbed Area Change (Increase Only):** _____ **Total Disturbed Area (After Change):** _____

G. Is this project part of a **Larger Common Plan for Development or Sale (LCP)?** ☐ Yes ☑ No
LCP/ Overall Development Name: _____ Check here if this is the **First Phase.** ☐

Previous State Permit/File Number: _____ **Previous NPDES Coverage Number:** SCR10 _____

H. Any **Flooding Problems** exist downstream of or adjacent to this site? ☐Yes ☑No (If yes, provide detailed description of flooding problems and applicable floodway/flood zone information in the C-SWPPP).

I. Active **S.C. DHEC Warning Notice, Notice to Comply or Notice of Violation** for this site or LCP? ☐Yes ☑No

J. List Relevant **State and Federal Environmental Permits or Approvals** applied for or obtained for this site (e.g., **RCRA, USACOE, Nationwide,** etc.). **If None, list None.**
SCDOT Encroachment Permit, NW14

K. **Any Waiver(s)/Variances/Exceptions Requested for this Project?** (If yes, identify below and include **Waiver Request and Justifications** in the C-SWPPP for each proposed request).

1. Small Construction Activity Waiver(s) From NPDES permitting **(Section 1.4 & Appendix B)?** ☐ Yes ☑ No
If yes, Identify requested waiver: ☐ Rainfall Erosivity Waiver ☐ TMDL Waiver ☐ Equivalent Analysis Waiver

2. Detention Waiver **(72-302(B)?** ☑ Yes ☐ No | 3. Other (Specify): _____

V. Waterbody Information (Attach additional sheet(s) as needed)

☐ **Change of Information**

A. **Receiving Waterbody(s) (RWB) Information** (List the nearest and next nearest receiving waterbodies to which the sites stormwater discharges will drain. If stormwater discharges drain to multiple waterbodies, list all such waterbodies).

1. Name of Receiving Waterbodies (RWB)	2. Distance to RWB (feet)	3. Classification of RWB
a. Nearest: Browns Branch	Outfall	FW
b. Next Nearest: Black River	59,000	FW
c. Coastal Zone ONLY: Coastal Receiving Water (CRW): Browns Branch	Outfall	Not Applicable
d. Other Waterbodies: _____		

B. **Waters of the U.S. / State Information** (Attach additional sheet(s) as needed)

Waters of the U.S./ State	1. On the site?	2. Delineated/ Identified?	3. Impacts?	4. Amount of impacts
a. Jurisdictional wetlands	☑Yes ☐No	☑Yes ☐No	☑Yes ☐No	0.09 Ac
b. Non-jurisdictional wetlands	☐Yes ☑No	☐Yes ☐No	☐Yes ☐No	____ Ac
c. Other Water(s): _____	☐Yes ☑No	☐Yes ☐No	☐Yes ☐No	____ Ac ____ Feet
d. Coastal Zone ONLY: Direct Critical Area	☐Yes ☑No	☐Yes ☐No	☐Yes ☐No	____ Ac ____ Feet

5. **If yes for impacts in B.3**, describe each impact and activity, and list all permits (e.g., USACOE Nationwide Permit, DHEC General Permit) and certifications that have been applied for or obtained for each impact:
Fill and clearing impacts along the road and at the outfalls. USACOE NW14 permit

C. **S.C. Navigable Waters (SCNW) Information (Section 2.6.5)** The Department will address any issues related to State Navigable Waters' Program under SC Regulation 19-450 during the review of the C-SWPPP for activities that will **NOT** require a 404 permit or a 401 certification. (Attach additional sheet(s) as needed).

1. **Are S. C. Navigable Waters (SCNW) on the site:** ☐Yes ☑ No
a. If **no**, do not complete this question. Proceed to Section D (Impaired Waterbodies).
b. If **yes**, provide the name of S.C. Navigable Waters (SCNW) on the site: _____

2. If **yes for C.1**, will construction activities cross over or occur in, under, or thru the SCNW? ☐Yes ☐ No
If yes, describe SCNW activities (e.g., road crossing, sub-aqueous utility line, temporary or permanent structures, etc.) and proceed to Section C.3: _____

3. Identify permits providing coverage of SCNW activities proposed for your site. If NONE, list none.

Permits/Certifications	Permit or Certification No.	Corresponding Covered SCNW Activity(ies)
a. DHEC General/ Other DHEC Permit		
b. USACOE **404 Permit or 401 Certification**		
c. **SCNW Permit** If applied for or issued, identify **Date applied for or issued:** _____		☐ **All Activities** or ☐ **Some Activities (Describe):**

d. **If a SCNW Permit has NOT been applied for** provide an additional plan sheet that shows plan and profile views (drawn to scale) of the SCNW and associated activities. Include a description of all proposed activities on this plan.

12

D. Impaired Waterbodies Information (Attach additional sheet(s) as needed)

1. 303(d) Listed Impaired Waterbodies

a. Name of **Nearest DHEC Water Quality Monitoring Stations (WQMS)(s)** that receives stormwater from your construction site and/or thru an MS4 and the **Name of the Corresponding Waterbody?**		b. **Is this WQMS(s) listed on the most current 303(d) List? If No, proceed to Section 2 of this table. If Yes, complete items c thru f.**	c. List the pollutant(s) identified as **"CAUSES"** of the impairment	d. Will any pollutants causing the impairment be present in your site's construction stormwater discharges?	e. If **yes for d**, list the **"USE SUPPORT"** impairment(s) affected by the pollutant(s) identified in c.
Nearest DHEC WQMS(s)	**Corresponding Waterbody**				
PD-361	Browns branch	☑ Yes ☐ No	DO	☐ Yes ☑ No	
RS-13151	Black River	☐ Yes ☑ No		☐ Yes ☐ No	
PD-660	Black River	☑ Yes ☐ No	HG	☐ Yes ☑ No	

f. If **yes for d** above, **will use of the BMPs proposed for your project ensure the site's discharges will NOT contribute to or cause further WQS violations for the impairment(s) listed in c?** ☐ Yes ☐ No
(NOTE: If no for f, this site is NOT eligible for coverage under the CGP). See Instructions.

2. TMDL Impaired Waterbodies

a. Name of **Nearest DHEC Water Quality Monitoring Stations (WQMS)(s)** that receives stormwater from your construction site and/or thru an MS4?	b. Has a TMDL(s) been developed for this WQMS(s)? **If No, identify as such below and proceed to Section VI. If Yes, complete items c thru f of this table.**	c. **If yes for b**, what pollutants are listed as "CAUSES" or causing the impairment?	d. **If yes for b**, has the standard been **"ATTAINED" or "Fully Supported"** for the impairment(s)?	e. **If no for d (Not Attained)**, will any pollutants causing the impairment be present in your site's construction stormwater discharges?
PD-361	☐ Yes ☑ No		☐ Yes ☐ No	☐ Yes ☐ No
RS-13151	☐ Yes ☑ No		☐ Yes ☐ No	☐ Yes ☐ No
PD-660	☐ Yes ☑ No		☐ Yes ☐ No	☐ Yes ☐ No

f. If **yes for e** above, **are your discharges consistent with the assumptions and requirements of the TMDL(s)?** ☐ Yes ☐ No
(NOTE: If no for f, this site is NOT eligible for coverage under the CGP). See Instructions.

VI. Signatures and Certifications

DO **NOT** SIGN IN BLACK INK! **Read the Certifications below (in entirety). Provide date, printed name, and signatures below.** If you are a **New Owner/Operator**, as Primary Permittee you must also sign and date the applicable Comprehensive SWPPP Acceptance & Compliance Agreement below.

C-SWPPP PREPARER: "One copy of the C-SWPPP, all specifications and supporting calculations, forms, and reports are herewith submitted and made a part of this application. I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000." **(This should be the person identified in Section III).**

G. Tilley Bull — **Printed Name of C-SWPPP Preparer**

Signature of C-SWPPP Preparer

20214 — **S. C. Registration #**

PRIMARY PERMITTEE: "I or I (on behalf of my company and its contractors and agents), as the case may be, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I understand that DHEC enforcement actions may be taken if the terms and conditions of the C-SWPPP are not met and I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I or I (on behalf of my company and its contractors and agents), as the case may be, also hereby certify that all land-disturbing construction and associated activity pertaining to this site shall be accomplished pursuant to and in keeping with the terms and conditions of the approved plans and SCR100000. I also certify that a responsible person will be assigned to the project for day-to-day control. I hereby grant authorization to the to S. C. Department of Health and Environmental Control (DHEC) and/or the local implementing agency the right of access to the site at all times for the purpose of on site inspections during the course of construction and to perform maintenance inspections following the completion of the land-disturbing activity." **(See Section 122.22 of S.C. Reg. 61-9 for signatory authority information.)** Having understood the above information, I am signing this certification as Primary Permittee to the aforementioned NPDES general permit."

Ray C. Funnye — **Printed Name of Primary Permittee**

Public Services Director — **Title/Position**

Signature of Primary Permittee

Date Signed

RECEIVED
APR 10 2019
MAY 03 2019
Dam Safety and Stormwater Permitting Division

dhec

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Coastal Zone Consistency Determination

To:	Richard V Geer, BOW Coastal Stormwater Permitting Section
	Melanie Williams, BOW Construction Permitting Section
From:	Dan Burger, OCRM Coastal Zone Consistency Section
Applicant:	Ray Funnye, Georgetown County
Project Name:	Willard Loop
Finding:	Conditionally Consistent with the SC Coastal Zone Management Program
Site Location:	Willard Loop at Pleasant Hill Dr (SC 513), NA, Georgetown County,South Carolina (TMS#:)
Reference #:	HNJ-0Y0B-N0SK7,WS/WW not assigned
Date:	January 16, 2019

The staff of the Office of Ocean and Coastal Resource Management (OCRM) reviewed the above referenced Coastal Zone Consistency project request for land disturbance associated with the paving of a portion Willard Loop from (SC-513) Pleasant Hill Drive to Moore Drive, an existing gravel road that is approximately 0.93 miles (4,900'). There are existing ditches, driveway pipes, and cross pipes on the site. This project has approximately 2.79 acres of disturbed area, and runoff from the site is distributed amongst 4 outfalls. Activities included in the project will be the clearing of existing roadside embankments, grading of the proposed roadway sub-base and ditches, and the construction of a two-lane asphalt paved roadway.

Perimeter Control BMPs, in the form of silt fence, will be installed in fill sections before site grading begins to prevent sediment erosion. As sections of the roadside ditches are completed, sediment tubes as well as temporary erosion control blankets will be installed within the flow path of the ditches and serve as the primary sediment control BMP throughout the construction activities. Once final stabilization is reached with the use of HECP Type III, vegetation and riprap, temporary BMPs will be removed. As this is a linear construction site, erosion and sediment control measures are not required to be implemented through phased plans. After construction the drainage on site will resemble the existing conditions. Thepaved travel lanes will replace the gravel drive and will drain to regraded ditches that will follow the new road alignment. The four crosslines will be replaced with new pipe in their same location. The crossline at outlet 1 will be increased in size to a 24" RCP to avoid overtopping and allow better access for cleaning. Within the 5.64 acre project boundary, the proposed activity will impact 2.79 acres, including 0.085 acres of jurisdictional wetlands.

We hereby certify that the above referenced project is **Conditionally Consistent**with the ***Guidelines for Evaluation of All Projects*** as well as theTransportation Facilitiesand Stormwater Management policies contained in the S.C. Coastal Zone Management Program provided the following conditions are included in the permits and adhered to by the applicant.

1. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work, the applicant must notify the State Historic Preservation Office and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

This determination shall serve as the SCDHEC OCRM Coastal Zone Consistency Determination for the work described above. However, this determination ***does not*** serve as aDepartment permitting decision and***does not*** alleviate the applicant's responsibility to obtain any applicable State or Federal permit(s) for the work. Local government authorizations ***may also*** be required.

South Carolina Board of Health and Environmental Control
Guide to Board Review
Pursuant to S.C. Code Ann. § 44-1-60

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of $100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

I. Filing of Request for Final Review

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars ($100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
   - The grounds for amending, modifying, or rescinding the staff decision;
   - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
   - the relief requested;
   - a copy of the decision for which review is requested; and
   - mailing address, email address, if applicable, and phone number(s) at which the requestor can be contacted.
3. RFRs should be filed in person or by mail at the following address:
   South Carolina Board of Health and Environmental Control
   Attention: Clerk of the Board
   2600 Bull Street
   Columbia, South Carolina 29201
   Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).
4. The filing fee may be paid by cash, check or credit card and must be received by the 15th day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by

regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.
NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.
10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

II. Final Review Conference Scheduling

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
   - include the place, date and time of the Conference;
   - state the presentation times allowed in the Conference;
   - state evidence may be presented at the Conference;
   - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
   - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
   - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
     - Type of decision (permit, enforcement, etc.) and description of the program.
     - Parties
     - Description of facility/site
     - Applicable statutes and regulations
     - Decision and materials relied upon in the administrative record to support the staff decision.
   - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
   - Rebuttal by Department staff [15 minutes]
   - Rebuttal by Requestor(s) [10 minutes]

   Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.

March 25, 2020

Ray Funnye
Georgetown County Public Works
2230 Browns Ferry Road,
Georgetown, SC 29442

Re: SAC-2019-00444, HNV-3NY9-QZ5TC, Willard Loop Improvements
Willard Loop, Hemingway, Georgetown County, South Carolina (TMS #: N/A)

Dear Ray Funnye:

The US Army Corps of Engineers (Corps) issued a final notice in the Federal Register on March 19, 2017 reissuing the Corps' Nationwide Permits (NWP). The NWP program authorizes activities that have minimal individual and cumulative adverse effects on the aquatic environment. On March 7, 2017, the South Carolina Department of Health and Environmental Control (Department) certified thirty-nine NWP's with and without conditions in accordance with Section 401 of the Clean Water Act and the S.C. Coastal Tidelands and Wetlands Act (48-39-10 et seq.).

Coastal Zone Consistency staff has determined the work, consisting of permanent impacts to 0.085 acres of waters of the U. S. for the construction of a linear transportation project, to be in accordance with the March 19, 2017, Department certification for Section 404 of the Clean Water Act and consistency with the S. C. Coastal Zone Management Program provided the applicant adheres to all conditions of the NWP.

This letter serves as our Consistency Determination for the work, as described. Additional certifications may be required on-site for land disturbing activities that will could be subject to NPDES or other state permitting requirements.

Sincerely,

Christopher M Stout
Manager, Coastal Zone Consistency Section
stoutcm@dhec.sc.gov

cc: Ms. Megan Jackson, US Army Corps of Engineers
Ms. Morgan Amedee, SCDHEC Bureau of Water
Mr. Judson Goff, Red Bay Environmental

Nationwide Permit 401 and CZC Conditions
Certified March 7, 2017

NWP 14: Linear Transportation Projects

Conditions of the 401 Water Quality Certification:

1. A compensatory mitigation plan must be submitted and approved by the SCDHEC for projects with impacts exceeding 0.10 acres or 300 linear feet.

2. Linear transportation projects must cross perpendicular (to the extent practicable) to the aquatic site area. Impacts certified under this NWP must be limited to three crossings per single and complete project and must be in non-tidal wetlands only.

3. This NWP is not certified for activities located in or adjacent to (as determined by SCDHEC) waters defined (as per Regulation 61-68) as Outstanding National Resource Waters (ONRW), Outstanding Resource Waters (ORW), or Trout Waters.

4. This NWP is not certified for activities that cause the loss of more than 300 linear feet of stream bed.

Conditions for the Coastal Zone Consistency Determination:

Provided all the conditions of the 401 Water Quality Certification, plus the following conditions are included, the NWP will be consistent with the S.C. Coastal Zone Management Program.

1. The use of multiple NWPs on one tract or land parcel is not approved in the coastal zone without SCDHEC OCRM concurrence.

2. For all projects, the applicant must provide a Wetland Master Plan consistent with the policies and procedures of Chapter III Policy Section XII E. of the S.C. Coastal Zone Management Program. **WMP policies also include the preservation of all wetlands not proposed to be impacted through approved restrictive covenants.** The plan must include an identification of all wetlands, all wetland impacts/activities, drainage patterns, conceptual development, and a mitigation plan.

Permit#231690

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2015)

App#200061859

Contact Information

Applicant: GeorgetownCountyDepartmentofPublicServices

Street: 108 Screven Street

N 33-40-28.7
W 79-23-32.9

City: Georgetown

State: SC **Zip Code:** 29440

Phone: (843)554-8602 **Fax:** (843)747-6485

Email: jgarrison@davisfloyd.com

Contact: Joseph Garrison

Project Location

Primary County: Georgetown

County	Road Name
Georgetown	**Pleasant Hill Dr (SC 513)**

1. Type of Encroachment: OTHER Road Connection

Pave existing gravel roadway.

2. Description of Location:

Willard Loop (Local) at Pleasant Hill Dr (SC 513), approximately 0.46 miles west of the intersection of Dennis Dr (Local) and Pleasant Hill Dr (SC 513).

(Attach sketch indicating roadway features such as: pavement width, shoulder width, sidewalk and curb and gutter location, significant drainage structure, north arrow, right of way width, and location of the proposed encroachment with respect to the roadway centerline and the nearest intersecting road on the State system.)

Customer Agreement

3. The undersigned applicant hereby requests the SCDOT to permit encroachment on the SCDOT right of way as described herein. It is expressly understood that the encroachment, if and when constructed, shall be installed in accordance with the sketch attached hereto and made a part hereof. The applicant agrees to comply with and be bound by the SCDOT's "A Policy for Accommodating Utilities on Highways Rights of way", "Standard Specifications for Highway Construction", the "General Provisions" and "Special Provisions", attached hereto or made a part hereof by reference, during the installation, operation and maintenance of said encroachment within the SCDOT's Right of Way. DISCHARGES OF STORM WATER AND NON-STORM WATER: Work within State Highway right-of-way shall be conducted in compliance with all applicable requirements of the National Pollutant Discharge Elimination System (NPDES) permit(s) issued to the Department of Transportation (Department), to govern the discharge of storm water and non-storm water from its properties. Work shall also be in compliance with all other applicable Federal, State and Local laws and regulations, and with the Department's Encroachment Permits Manual and encroachment permit. The encroachment permit will not be issued until the applicant has received an NPDES construction permit from SC Department of Health and Environmental Control.

The applicant agrees to comply with all current SCDOT Standards Specifications for Highway Construction including all Supplemental Technical Specifications. The applicant hereby further agrees, and binds his/her/its heirs, personal representatives, successors, assigns, to assume any and all liability for accidents or injuries to persons, or damage to property, including the highway, that may be caused by the construction, maintenance, use, moving or removing of the physical appurtenances contemplated herein, and the applicant agrees to indemnify and hold SCDOT harmless from and against any and all claims for personal injury and/or property damage which may be sustained by reason of the construction, maintenance or existence of said encroachment on the SCDOT's right of way.

Applicant's Name: Ray C. Funnye **Date:** OCT 30 2018
(Please print or type)

Applicant's Sig: _____ **Title:** Public Services Director

For Office Use Only

For Office Use Only

In accordance with your request and subject to all the provisions, terms, conditions, and restrictions stated in the application and the general and special provisions attached hereto, the SCDOT hereby approves your application for an encroachment permit. This permit shall become null and void unless the work contemplated herein shall have been completed prior to:

See Attached Special Provision and/or Permit Requirements

NPDES Permit Nbr: SCR1023EY

(Date received by res. Maint. Engr.) (SCDOT Approval) ADPE (Date) 02/10/2020

Permit # 231890

General Provisions

Application for Encroachment Permit
General Provisions

1. **DEFINITIONS: The word "Permittee" used herein shall mean the name of the person, firm, or corporation to whom this permit is addressed, his, her, its, heirs, personal representatives, successors and assigns. The word "DEPARTMENT" shall mean the South Carolina Department of Transportation.**
2. **NOTICE PRIOR TO STARTING WORK: Before starting the work contemplated herein within the limits of the highway right of way, the Department's Resident Maintenance Engineer in the county in which the proposed work is located shall be notified 24 hours in advance so that he may be present while the work is under way.**
3. **PERMIT SUBJECT TO INSPECTION: This permit shall be kept at the site of the work at all times while said work is under way and must be shown to any representative of the Department or law enforcement officer on demand.**
4. **PROTECTION OF HIGHWAY TRAFFIC: The applicant shall be responsible for the protection of the highway traffic at all times during the construction, maintenance, removing or moving of the encroachment permitted herein. Detours, barricades, warning signs and flagmen, as necessary,**
   shall be provided by and at the expense of the Permittee and shall be in accordance with the "Manual on Uniform Traffic Control Devices" (MUTCD). The work shall be planned and carried out so that there will be the least possible inconvenience to the motoring public. The Permittee agrees to observe all rules and regulations of the Department while carrying on the work contemplated herein and take all other precautions that circumstances warrant.
5. **STANDARDS OF CONSTRUCTION: All work shall conform to the Department's standards of construction and shall be performed in a workman-like manner. The applicant shall make adequate provisions for maintaining the proper drainage of the highway as it may be affected by the encroachment permitted herein. All work shall be subject to the supervision and satisfaction of the Department.**
6. **FUTURE MOVING OF PHYSICAL APPURTENANCES: If, in the opinion of the State Highway Engineer, it should ever become necessary to move or remove the physical appurtenances, or any part thereof contemplated herein, on account of change in location of the highway, widening of the highway, or for any other sufficient reason, such moving shall be done on demand of the Department at the expense of the Permittee.**
7. **RESTORATION OF HIGHWAY FACILITIES UPON MOVING OR REMOVING OF PHYSICAL APPURTENANCES: If, and when, the physical appurtenances contemplated herein shall be moved or removed, either on the demand of the Department or at the option of the Permittee, the highway and facilities shall immediately be restored to their original condition at the expense of the Permittee.**
8. **COSTS: All work in connection with the construction, maintenance, moving or removing of the physical appurtenances contemplated herein shall be done by and at the expense of the Permittee.**
9. **ADDITIONAL PERMISSIONS:**
   (a) It is distinctly understood that this permit does not in any way grant or release any rights lawfully possessed by the abutting property owners. The Permittee shall secure any such rights, as necessary, from said abutting property owners.
   (b) The Permittee shall be responsible for obtaining all other approvals or permits necessary for installation of the encroachment from other government entities.

(c) There shall be no excavation of soil nearer than two feet to any public utility line or appurtenant facility except with the consent of the owner thereof, or except upon special permission of this Department after an opportunity to be heard is given the owner of such line or appurtenant facility.

10. **ADDITIONAL WORK PERFORMANCE:**

(a) All crossings over the highway shall be constructed in accordance with "Specifications for Overhead Crossings of Light and Power Transmission Lines and Telegraph Lines over each other and over Highway Rights of Way in South Carolina," as approved by the Public Service Commission of South Carolina and effective as of date of this permit.

(b) All tunneling, boring, or jacking shall be done in such a way as not to disturb the highway surfacing.

(c) No pavement shall be cut unless specifically authorized herein.

(d) No excavation shall be nearer than three feet to the edge of pavement unless specifically authorized herein.

(e) Underground facilities will be located at minimum depths as defined in the "Utility Accommodations Manual" for the transmittant, generally as follows: 4 feet minimum for hazardous or dangerous transmittant, 3 feet minimum for other lines. The Department may approve shallower depths if adequate protection is provided. Such approval must be obtained in writing.

(f) Service and other small diameter pipes shall be jacked, driven, or otherwise forced underneath the pavements on any surfaced road without disturbing the pavement. The section under the highway pavement and within a distance of three (3) feet on either side shall be continuous without joints.

11. **ACCESS:**

(a) Permittee is responsible for maintaining reasonable access to private driveways during construction.

(b) It is expressly provided that, with respect to any limited access highway, the Permittee shall not have or gain access from the main traveled way of the highway, or the on or off ramps to such facility, except upon approval by the Department.

12. **DRIVEWAYS:**

(a) The existing crown of the highway shall be continued to the outside shoulder line of the highway.

(b) If the driveway or approach is concrete pavement, the pavement shall be constructed at least 6 inches thick and with a minimum of class 2500 concrete. There shall be a bituminous expansion joint, not less than 3/4 inches in thickness, placed between the highway paving and the paving of the approach for the full width of the approach.

13. **BEAUTIFICATION:**

(a) All trees, plants, flowers, etc. shall be placed in accordance with the provisions specifically stipulated herein.

(b) All trees, plants, flowers, etc. shall be maintained by, and at the expense of, the Permittee and the provisions of this permit shall become null and void, if and when said Permittee ceases to maintain aid trees, plants, flowers, etc.

14. **AS-BUILT PLANS:**

(a) The applicant shall provide the Department with survey-quality as-built plans in accordance with the requirements set forth in the Department's "A Policy for Accommodating Utilities on Highway Rights of Way".

DAVIS & FLOYD SINCE 1954

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	ROUTE NO.	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP		1	45

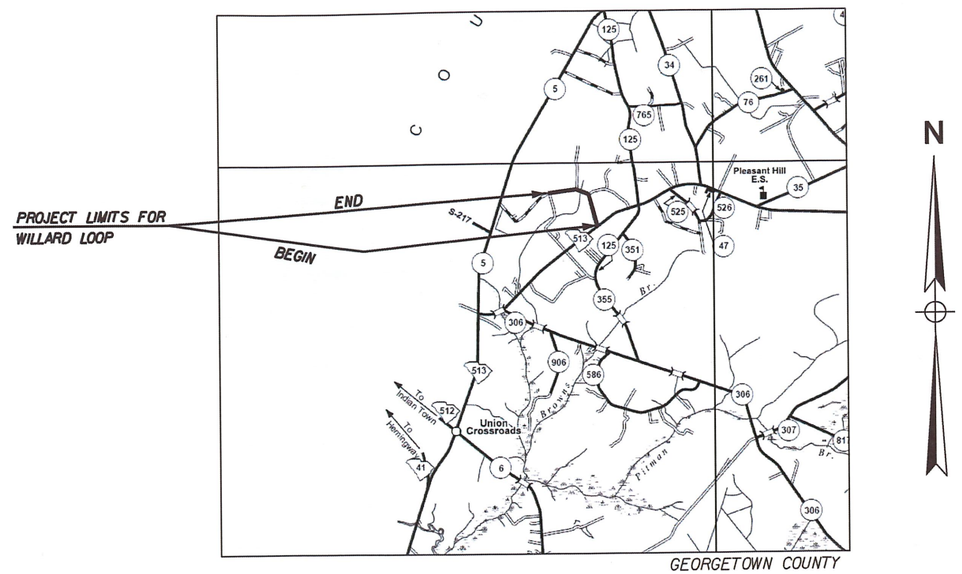
GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES
DIVISION OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENTS FOR WILLARD LOOP

Stormwater & Sediment Control Plan Approval

The stormwater & sediment control plan meets minimum State and County regulations. This approval is not a warranty as to its effectiveness under all conditions. The permit and stamped set of plans must be kept on the jobsite at all times.

Signature: Tracy Dyson Date: 4/26/19



LAYOUT
NTS

SCDOT
South Carolina Department of Transportation
APPROVED PLANS
APPROVED
By Marcus E. Clore at 12:16 pm, Feb 07, 2020
Date:

NET LENGTH OF ROADWAY	0.93	MILES
NET LENGTH OF OUTFALL	0.00	MILES
NET LENGTH OF PROJECT	0.93	MILES
LENGTH OF EXCEPTIONS	0.00	MILES
GROSS LENGTH OF PROJECT	0.93	MILES

NPDES PERMIT INFORMATION

NPDES Disturbed Area = 2.79 Acres

Approximate Location of Roadway is:
Longitude 79°23'33.07"W
Latitude 33°40'29.03"N

Hydrology and NPDES Design provided by:
Davis & Floyd

NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

RAILROAD INVOLVEMENT?
YES / (NO)

INDEX OF SHEETS

SHEET #	DESCRIPTION	SHEET TOTALS
01	TITLE SHEET	1
03	TYPICAL SECTIONS	1
05	GENERAL CONSTRUCTION NOTES	1
05A - 05B	REFERENCE DATA SHEET	2
06 - 14	PLAN AND PROFILE SHEETS	9
U1	UTILITY SHEET	1
EC1	EROSION CONTROL SHEET	1
EC2	CONTOUR SHEET	1
X1 - X17	CROSS SECTIONS	17
D01 - D10	STANDARD DRAWINGS	10
	TOTAL SHEETS	44

3 DAYS BEFORE DIGGING IN SOUTH CAROLINA
CALL 811
PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)
ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

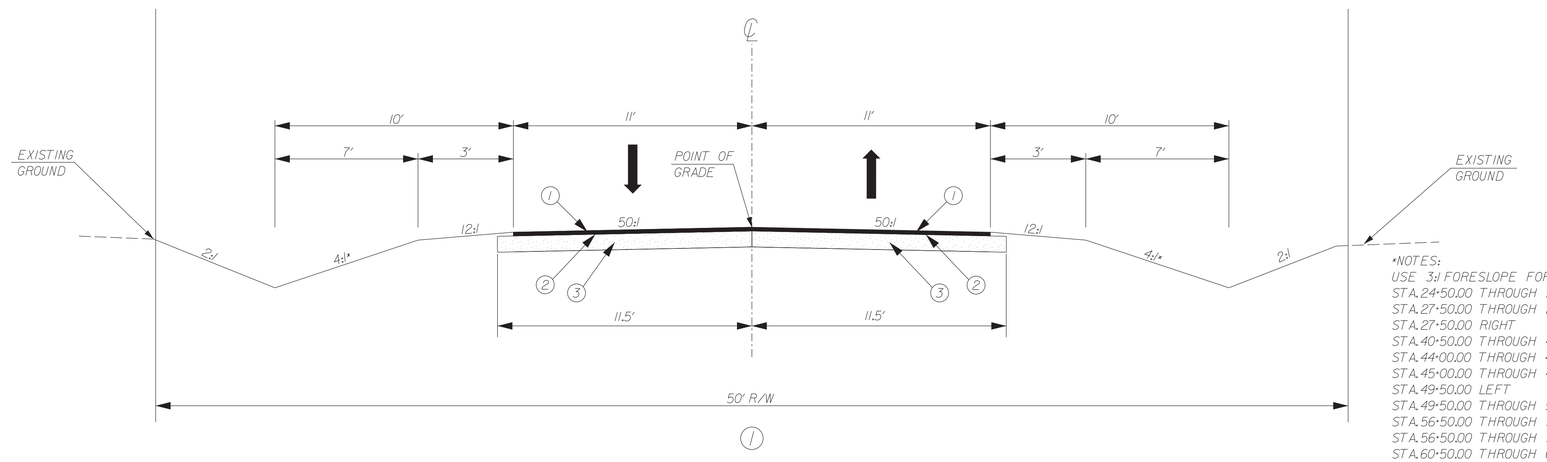
CONSULTING ENGINEERING FIRM
SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

CONSULTANT - PROJECT ENGINEER
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BULL

FOR CONSTRUCTION : _____ DATE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	3	

TYPICAL SECTION
WILLARD LOOP
GEORGETOWN COUNTY



TYPICAL SECTION
STA. 20+12.00 TO STA.69+19.02

*NOTES:
USE 3:1 FORESLOPE FOR
STA.24+50.00 THROUGH 26+50.00 LEFT
STA.27+50.00 THROUGH 29+00.00 LEFT
STA.27+50.00 RIGHT
STA.40+50.00 THROUGH 42+00.00 RIGHT
STA.44+00.00 THROUGH 46+50.00 RIGHT
STA.45+00.00 THROUGH 47+50.00 LEFT
STA.49+50.00 LEFT
STA.49+50.00 THROUGH 50+00.00 RIGHT
STA.56+50.00 THROUGH 57+00.00 RIGHT
STA.56+50.00 THROUGH 57+50.00 LEFT
STA.60+50.00 THROUGH 61+00.00 LEFT
STA.60+50.00 RIGHT

USE SPECIAL DITCH PROFILE
STA.65+80.00 THROUGH 68+60.00 LEFT AND RIGHT

SEE PLAN SHEETS AND CROSS SECTIONS FOR GUARDRAIL LOCATION AND OFFSETS.

SEE SCDOT STANDARD DRAWING 805-215-00 FOR ADDITIONAL LENGTH POST GUARDRAIL INSTALLATION

WITHIN THE SCDOT R/W USE THE FOLLOWING PAVEMENT DESIGN
H/M ASPHALT CONCRETE SURFACE COURSE TYPE B (220*/SY)
H/M ASPHALT CONCRETE INTERMEDIATE COURSE TYPE B (440*/SY)
H/M ASPHALT CONCRETE BASE COURSE TYPE B (450*/SY)

PAVEMENT LEGEND

1 H/M ASPHALT CONCRETE SURFACE COURSE TYPE C (200*/SY)
2 PRIME COAT
3 8" GRADED AGGREGATE BASE COURSE

RTE. WILLARD LOOP DESIGN SPEED		
MPH	FROM STA.	TO STA.
30	20+12.00	69+19.02
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
TYPICAL SECTION SHEET

NOT TO SCALE

SCALE: 200.000 ft / in.
PEN TABLE: SCDOT Levels 2015 B&W Plan-PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\f_dgn\Const plpr\31810-02 Willard Typical Sheet 3.dgn
11/19/2018

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	5	

GENERAL CONSTRUCTION NOTES:

THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD CONSTRUCTION (LATEST EDITION), SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION), SCDOT TRAFFIC SIGNAL SPECIFICATIONS, AND THE MUTCD, 2009 EDITION.

THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT THE TRANSFER OF SUSPENDED SOLIDS AND/OR CHEMICAL SOLUTIONS OFF-SITE, AND TO PREVENT EXCESSIVE SILTATION OF EXISTING DRAINAGE PIPES, CULVERTS, AND DITCHES. THE CONTRACTOR SHALL ROUTINELY INSPECT AND MAINTAIN THESE DEVICES. ALL CHECK DAMS AND RIPRAP SHOWN ARE CLASS B UNLESS OTHERWISE STATED.

THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE FACILITIES SHOWN ON THE PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE UTILITIES INFORMATION SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT THE PROPER COORDINATION WITH THE VARIOUS UTILITY OWNERS HAS BEEN PERFORMED. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY DURING RELOCATION OPERATIONS.

THE LOCATION OF UTILITIES SHOWN IN THE PLANS SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS DESIGNATED BY A TEST HOLE. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, UTILITIES AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR OR COORDINATE WITH UTILITY OWNERS TO REPAIR ANY DAMAGES DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL NOT STORE ANY MATERIALS OR EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVEL WAY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMISSION TO STORE EQUIPMENT ON ADJACENT PROPERTIES.

PIPE LENGTHS THAT ARE SHOWN ON THE PLANS ARE ROUNDED TO THE NEAREST 4' INCREMENT AND CALCULATED ALONG THE PIPE SLOPE FROM CENTER OF BOX TO CENTER OF BOX. FIELD ADJUSTMENTS OF THE ACTUAL PIPE LENGTHS MAY BE NECESSARY.

ANY COSTS ASSOCIATED WITH REMOVING EXISTING PIPE SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE.

FINAL SURFACE COURSE ON ALL ROADWAYS SHALL NOT BE PLACED UNTIL ALL DRAINAGE INSTALLATIONS ARE COMPLETE.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER DEWATERING PROCEDURES TO PREVENT THE FLOW AND ACCUMULATION OF SURFACE AND GROUND WATER IN EXCAVATED AREAS. ALL OF THE WATER PUMPED OR DRAINED SHALL BE DISPOSED OF WITHOUT UNDUE INTERFERENCE WITH OTHER WORK OR DAMAGE TO PAVEMENTS AND OTHER SURFACES OR PROPERTY. DISCHARGED WATER FROM ALL DEWATERING OPERATIONS SHALL BE FILTERED IN ACCORDANCE WITH SCDHEC OR OCRM REGULATIONS OR AS APPROVED BY THE ENGINEER. A PLAN FOR DEWATERING SHALL BE SUBMITTED TO THE RESIDENT CONSTRUCTION ENGINEER AND OCRM FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED WHERE DEWATERING IS REQUIRED. ONCE APPROVED AN ADDITIONAL COPY OF THE PLAN SHOULD BE PROVIDED TO GEORGETOWN COUNTY PUBLIC WORKS.

THE CONTRACTOR SHALL PROVIDE A DETAILED CONTRACTOR'S EROSION CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO COMMENCING ANY WORK ON THE PROJECT.

THE CONTRACTOR SHALL PROVIDE A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL BEFORE STARTING ANY WORK ON THE PROJECT. THIS PLAN SHALL INCLUDE DETAILS CONCERNING PLACEMENT OF REFLECTORIZED BARRELS, CONES, AND/OR TYPE 2 BARRICADES IN ACCORDANCE WITH THE 2009 MUTCD.

THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING, AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR TO MINIMIZE TRENCH WIDTH AS REQUIRED. PAYMENT FOR SUCH MEASURES IS INCLUDED IN THE BID PRICE FOR THE ITEM BEING CONSTRUCTED.

WHERE STORM PIPES AND STRUCTURES ARE IDENTIFIED TO BE ABANDONED IN PLACE, THE FOLLOWING PROCEDURES SHALL BE UTILIZED:

PIPES: PLUG END(S) WITH BRICK AND GROUT.
STRUCTURES: REMOVE RIM/COVER AND CONE OR TOP SLAB.
PLUG PIPE OPENINGS WITH BRICK AND GROUT.
FILL STRUCTURE WITH FLOWABLE FILL TO BOTTOM OF PAVEMENT SECTION.
TEMPORARY ASPHALT IF NEEDED.

ANY COSTS ASSOCIATED WITH ABANDONING PIPES OR STRUCTURES SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE OR STRUCTURES ACCORDINGLY.

CONSTRUCTION SIGNS: CONSTRUCTION SIGN SETS SHALL BE PLACED ALONG BOTH APPROACHES OF THE ROADWAY INTERSECTING WITH THE PROJECT ROADWAY. ROAD WORK AHEAD AND DIRECTIONAL ARROW SIGNS ARE TO BE PLACED APPROXIMATELY 100' IN ADVANCE OF THE INTERSECTION OF THE ROAD UNDER CONSTRUCTION. END ROAD WORK SIGN SHOULD BE PLACED 50' AFTER THE SECOND INTERSECTION WITH THE PROJECT ROADWAY. DISCRETION SHOULD BE USED IN PLACEMENT OF THE SIGNS, NO SIGHTLINES FROM ROADWAYS OR DRIVEWAYS SHOULD BE AFFECTED BY THE PLACEMENT OF THE SIGNS.

W20-1-48-A

M6-1-21

W20-1-48-5

G20-2-48

PAVE ALL DRIVEWAYS TO R/W LINE. UNLESS THE DRIVEWAY IS LABELED, THE STANDARD DRIVEWAY RADIUS IS 10'. THIS MAY BE MODIFIED PER DIRECTION OF THE ENGINEER TO FIT FIELD CONDITIONS.

THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING CONSTRUCTION.

THE ENGINEER RESERVES THE RIGHT TO ADJUST THE LOCATION OF ALL PROPOSED IMPROVEMENTS TO MEET FIELD CONDITIONS IF NECESSARY.

STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

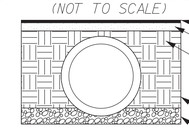
ALL DISTURBED AREAS SHALL BE SEEDED AFTER GRADING IS COMPLETE OR WITHIN 7 DAYS AFTER WORK STOPS IN AN AREA UNLESS WORK IS TO RESUME IN THAT AREA IN LESS THAN 21 DAYS.

NOTE:
1. SEE SCDOT STANDARD DRAWING NO. 625-305-00 FOR PAVEMENT MARKING DETAILS.
2. SEE SCDOT STANDARD DRAWING NO. 651-110-00 FOR FLAT SHEET MOUNTING DETAILS.
3. IF A SIGN MARKED TO BE RELOCATED IS DAMAGED BY THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE SIGN.
4. CONTRACTOR IS TO SAW-CUT CONNECTIONS TO EXISTING ROADWAYS AND/OR DRIVEWAYS WHERE APPLICABLE.
5. CONTRACTOR IS TO PAVE DRIVEWAY APRONS TO RIGHT-OF-WAY LIMITS.

RELOCATE AND MAINTAIN MAILBOXES BEYOND CONSTRUCTION LIMITS AND RESTORE TO EDGE OF PAVEMENT AFTER CONSTRUCTION. RELOCATE BUSHES AND BOLLARDS THAT ARE INSIDE CONSTRUCTION LIMITS CLEAR OF R/W

INSTALL 4" RAISED PERMANENT YELLOW BI-DIRECTIONAL PAVEMENT MARKERS EVERY 80 FEET. REFER TO SCDOT STANDARD DRAWINGS FOR GUIDANCE.

CULVERT INSTALLATION TYPICAL SECTION
(NOT TO SCALE)



SURFACE COURSE TYPE C
AGGREGATE BASE COURSE
*STRUCTURAL BACKFILL (95% MAX. DRY DENSITY COMPACTION)**
GEOTEXTILE FABRIC
PIPE BEDDING (NO.57 STONE) 24" MINIMUM THICKNESS BEGINNING 12" BELOW PIPE

NOTE: SEE CROSS SECTIONS STA. 48+22.53 AND STA. 58+67.29 FOR FURTHER DETAIL

** DO NOT USE SAND FILL WITHIN 2 VERTICAL FEET OF WATER LEVEL AT TIME OF CONSTRUCTION. USE NO.57 STONE IN PLACE OF SAND.*

THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS WITH SUFFICIENT ADVANCE OF THE ROAD CLOSURE TO INSTALL THE PIPE CROSSINGS. PROVIDE TEMPORARY ROAD CLOSURE SIGNAGE FOR PIPE CROSSING CONSTRUCTION.

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20014 GEORGE TILLEY BILL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
GENERAL CONSTRUCTION NOTES SHEET

SCALE: 200.000 ft / in.
PEN TABLE: SCDOT Levels 2015 B&W Plan-PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\F.dgn\Const plpr\31810-02 Willard General Construction Notes Sheet 5.dgn
4/11/2019

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	5A	

℄ WILLARDLOOP1
PI Sta. 22+52.58
Δ = 23° 11′ 32″ (RT)
Dc = 7° 12′ 23″
T = 163.15′
L = 321.83′
R = 795.07′
E = 16.57′
Ds = 30 MPH
e(max) = 4%
e = RC

℄ WILLARDLOOP2
PI Sta. 28+76.03
Δ = 5° 27′ 06″ (RT)
Dc = 3° 49′ 11″
T = 71.42′
L = 142.73′
R = 1,500.00′
E = 1.70′
Ds = 30 MPH
e(max) = 4%
e = NC

℄ WILLARDLOOP3
PI Sta. 30+09.48
Δ = 4° 44′ 41″ (LT)
Dc = 3° 49′ 11″
T = 62.14′
L = 124.22′
R = 1,500.00′
E = 1.29′
Ds = 30 MPH
e(max) = 4%
e = NC

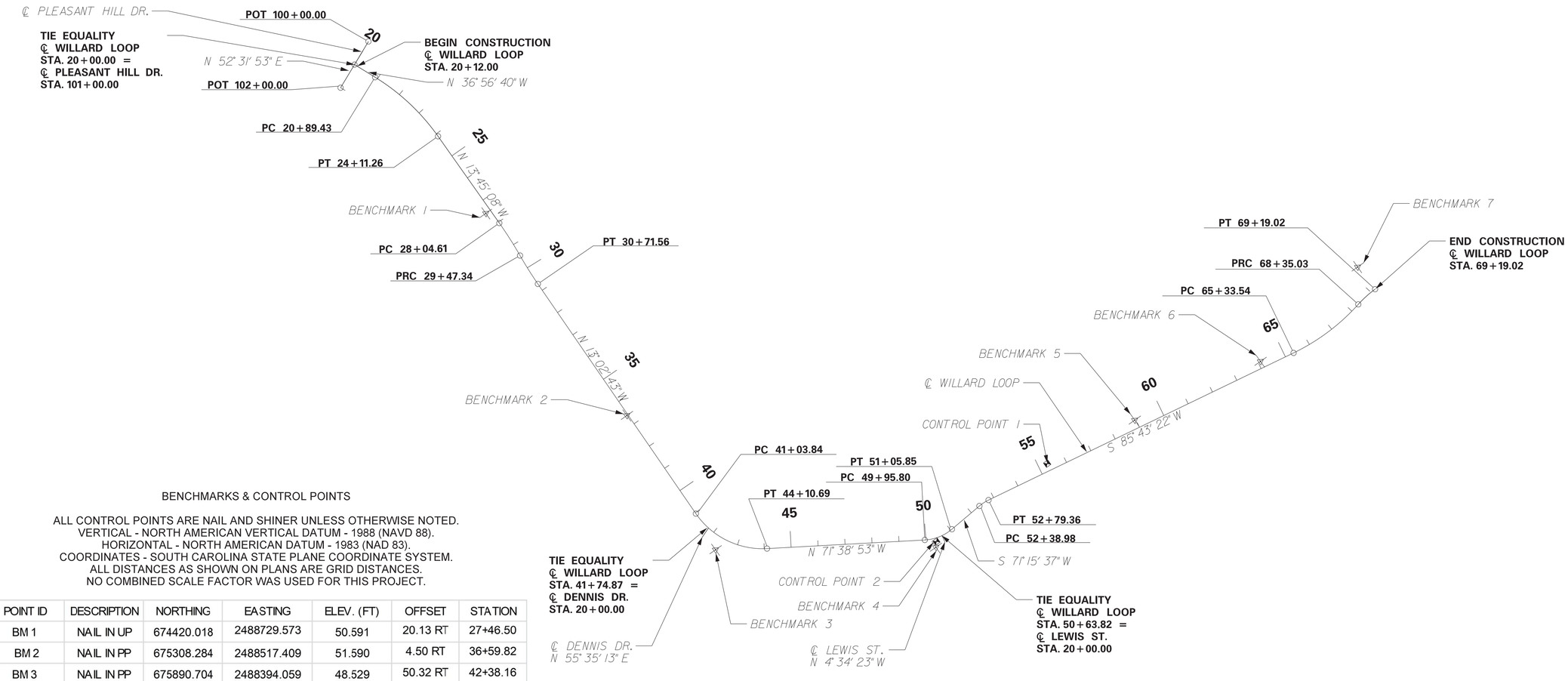
℄ WILLARDLOOP4
PI Sta. 42+72.20
Δ = 58° 36′ 10″ (LT)
Dc = 19° 05′ 55″
T = 168.36′
L = 306.84′
R = 300.00′
E = 44.01′
Ds = 30 MPH
e(max) = 4%
e = RC

℄ WILLARDLOOP5
PI Sta. 50+52.83
Δ = 37° 05′ 30″ (LT)
Dc = 33° 42′ 12″
T = 57.03′
L = 110.05′
R = 170.00′
E = 9.31′
Ds = 30 MPH
e(max) = 4%
e = RC

℄ WILLARDLOOP6
PI Sta. 52+59.28
Δ = 14° 27′ 45″ (RT)
Dc = 35° 48′ 36″
T = 20.30′
L = 40.39′
R = 160.00′
E = 1.28′
Ds = 30 MPH
e(max) = 4%
e = RC

℄ WILLARDLOOP7
PI Sta. 66+86.22
Δ = 22° 17′ 21″ (LT)
Dc = 7° 23′ 35″
T = 152.68′
L = 301.49′
R = 775.00′
E = 14.90′
Ds = 30 MPH
e(max) = 4%
e = NC

℄ WILLARDLOOP8
PI Sta. 68+77.18
Δ = 11° 56′ 38″ (RT)
Dc = 14° 13′ 14″
T = 42.15′
L = 83.99′
R = 402.91′
E = 2.20′
Ds = 30 MPH
e(max) = 4%
e = NC



BENCHMARKS & CONTROL POINTS

ALL CONTROL POINTS ARE NAIL AND SHINER UNLESS OTHERWISE NOTED.
VERTICAL - NORTH AMERICAN VERTICAL DATUM - 1988 (NAVD 88).
HORIZONTAL - NORTH AMERICAN DATUM - 1983 (NAD 83).
COORDINATES - SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM.
ALL DISTANCES AS SHOWN ON PLANS ARE GRID DISTANCES.
NO COMBINED SCALE FACTOR WAS USED FOR THIS PROJECT.

POINT ID	DESCRIPTION	NORTHING	EASTING	ELEV. (FT)	OFFSET	STATION
BM 1	NAIL IN UP	674420.018	2488729.573	50.591	20.13 RT	27+46.50
BM 2	NAIL IN PP	675308.284	2488517.409	51.590	4.50 RT	36+59.82
BM 3	NAIL IN PP	675890.704	2488394.059	48.529	50.32 RT	42+38.16
BM 4	NAIL IN UP	676180.805	2487631.311	40.179	33.07 RT	50+29.20
BM 5	NAIL IN PP	676012.288	2486773.887	40.403	31.30 LT	58+95.61
BM 6	NAIL IN PP	675980.450	2486260.647	48.078	24.78 LT	64+09.79
BM 7	NAIL IN UP	675787.115	2485798.251	49.850	104.29 LT	69+15.93
CP 1	5/8" RBF CAP	676043.391	2487134.465		26.86 LT	55+33.43
CP 2	5/8" RBF CAP	676161.699	2487621.786		13.07 RT	50+35.79

0 200 400 600 800

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BILL

DAVIS & FLOYD
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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
REFERENCE DATA SHEET

SCALE 1"= 200′

SCALE: 200.000 ft / in.
PEN TABLE: SCDOT Levels 2015 B&W Plan-PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\f_dgn\Const plpr\31810-02 Willard Reference Data Sheet 5A.dgn
11/19/2018

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	5B	

```
**        1   Describe Chain WILLARDLOOP

Chain WILLARDLOOP contains:
 208 CUR WILLARDLOOP1 CUR WILLARDLOOP2 CUR WILLARDLOOP3 CUR WILLARDLOOP4 CUR WI-
LLARDLOOP5 CUR WILLARDLOOP6 CUR WILLARDLOOP7 CUR WILLARDLOOP8

Beginning chain WILLARDLOOP description
================================================================================

Point 208              N      676.148.7495 E    2.487.592.6811 Sta       20+00.00

Course from 208 to PC WILLARDLOOP1 S 29° 36′ 01.53″ E Dist 2.700.4434

                                                          End    Region 1
Equation: Sta 47+00.44 (BK) = Sta 20+89.43 (AH)           ----------------
                                                          Begin Region 2

                                Curve Data
                              *----------*
Curve WILLARDLOOP1
P.I.  Station            22+52.58  N        673.931.1287  E       2.488.828.5013
Delta        =      23° 11′ 32.30″ (RT)
Degree       =       7° 12′ 23.00″
Tangent      =             163.1487
Length       =             321.8298
Radius       =             795.0693
External     =              16.5665
Long Chord   =             319.6372
Mid. Ord.    =              16.2284
P.C.  Station            20+89.43  N        673.800.7375  E       2.488.926.5605
P.T.  Station            24+11.26  N        674.089.6004  E       2.488.789.7169
C.C.                                N        674.278.6076  E       2.489.561.9937
Back         = N  36° 56′ 40.45″ W
Ahead        = N  13° 45′ 08.15″ W
Chord Bear   = N  25° 20′ 54.30″ W

Course from PT WILLARDLOOP1 to PC WILLARDLOOP2 N 13° 45′ 08.15″ W Dist 393.3500

                                Curve Data
                              *----------*
Curve WILLARDLOOP2
P.I.  Station            28+76.03  N        674.541.0446  E       2.488.679.2303
Delta        =       5° 27′ 06.49″ (RT)
Degree       =       3° 49′ 10.99″
Tangent      =              71.4178
Length       =             142.7279
Radius       =           1.500.0000
External     =               1.6992
Long Chord   =             142.6740
Mid. Ord.    =               1.6973
P.C.  Station            28+04.61  N        674.471.6741  E       2.488.696.2081
P.T.  Station            29+47.34  N        674.611.7143  E       2.488.668.9202
C.C.                                N        674.828.2605  E       2.490.153.2071
Back         = N  13° 45′ 08.15″ W
Ahead        = N   8° 18′ 01.65″ W
Chord Bear   = N  11° 01′ 34.90″ W

                                Curve Data
                              *----------*
Curve WILLARDLOOP3
P.I.  Station            30+09.48  N        674.673.2079  E       2.488.659.9487
Delta        =       4° 44′ 41.22″ (LT)
Degree       =       3° 49′ 10.99″
Tangent      =              62.1446
Length       =             124.2181
Radius       =           1.500.0000
External     =               1.2868
Long Chord   =             124.1826
Mid. Ord.    =               1.2857
P.C.  Station            29+47.34  N        674.611.7143  E       2.488.668.9202
P.T.  Station            30+71.56  N        674.733.7486  E       2.488.645.9214
C.C.                                N        674.395.1681  E       2.487.184.6332
Back         = N   8° 18′ 01.65″ W
Ahead        = N  13° 02′ 42.87″ W
Chord Bear   = N  10° 40′ 22.26″ W

Course from PT WILLARDLOOP3 to PC WILLARDLOOP4 N 13° 02′ 42.87″ W Dist 1.032.2864

                                Curve Data
                              *----------*
Curve WILLARDLOOP4
P.I.  Station            42+72.20  N        675.903.4104  E       2.488.374.9107
Delta        =      58° 36′ 09.85″ (LT)
Degree       =      19° 05′ 54.94″
Tangent      =             168.3616
Length       =             306.8432
Radius       =             300.0000
External     =              44.0140
Long Chord   =             293.6420
Mid. Ord.    =              38.3827
P.C.  Station            41+03.84  N        675.739.3939  E       2.488.412.9134
P.T.  Station            44+10.69  N        675.956.4198  E       2.488.215.1121
C.C.                                N        675.671.6778  E       2.488.120.6557
Back         = N  13° 02′ 42.87″ W
Ahead        = N  71° 38′ 52.71″ W
Chord Bear   = N  42° 20′ 47.79″ W

Course from PT WILLARDLOOP4 to PC WILLARDLOOP5 N 71° 38′ 52.71″ W Dist 585.1107

                                Curve Data
                              *----------*
Curve WILLARDLOOP5
P.I.  Station            50+52.83  N        676.158.6014  E       2.487.605.6281
Delta        =      37° 05′ 30.42″ (LT)
Degree       =      33° 42′ 12.24″
Tangent      =              57.0327
Length       =             110.0535
Radius       =             170.0000
External     =               9.3118
Long Chord   =             108.1418
Mid. Ord.    =               8.8282
P.C.  Station            49+95.80  N        676.140.6445  E       2.487.659.7601
P.T.  Station            51+05.85  N        676.140.2785  E       2.487.551.6189
C.C.                                N        675.979.2907  E       2.487.606.2348
Back         = N  71° 38′ 52.71″ W
Ahead        = S  71° 15′ 36.86″ W
Chord Bear   = S  89° 48′ 22.07″ W

Course from PT WILLARDLOOP5 to PC WILLARDLOOP6 S 71° 15′ 36.86″ W Dist 133.1268

                                Curve Data
                              *----------*
Curve WILLARDLOOP6
P.I.  Station            52+59.28  N        676.090.9866  E       2.487.406.3243
Delta        =      14° 27′ 44.92″ (RT)
Degree       =      35° 48′ 35.50″
Tangent      =              20.3013
Length       =              40.3869
Radius       =             160.0000
External     =               1.2828
Long Chord   =              40.2797
Mid. Ord.    =               1.2726
P.C.  Station            52+38.98  N        676.097.5089  E       2.487.425.5494
P.T.  Station            52+79.36  N        676.089.4725  E       2.487.386.0795
C.C.                                N        676.249.0269  E       2.487.374.1462
Back         = S  71° 15′ 36.86″ W
Ahead        = S  85° 43′ 21.79″ W
Chord Bear   = S  78° 29′ 29.33″ W

Course from PT WILLARDLOOP6 to PC WILLARDLOOP7 S 85° 43′ 21.79″ W Dist 1.254.1778

                                Curve Data
                              *----------*
Curve WILLARDLOOP7
P.I.  Station            66+86.22  N        675.984.5447  E       2.485.983.1444
Delta        =      22° 17′ 21.20″ (LT)
Degree       =       7° 23′ 34.81″
Tangent      =             152.6757
Length       =             301.4908
Radius       =             775.0000
External     =              14.8955
Long Chord   =             299.5932
Mid. Ord.    =              14.6146
P.C.  Station            65+33.54  N        675.995.9318  E       2.486.135.3949
P.T.  Station            68+35.03  N        675.916.2626  E       2.485.846.5888
C.C.                                N        675.223.0903  E       2.486.193.1969
Back         = S  85° 43′ 21.79″ W
Ahead        = S  63° 26′ 00.59″ W
Chord Bear   = S  74° 34′ 41.19″ W

                                Curve Data
                              *----------*
Curve WILLARDLOOP8
P.I.  Station            68+77.18  N        675.897.4126  E       2.485.808.8913
Delta        =      11° 56′ 37.69″ (RT)
Degree       =      14° 13′ 13.91″
Tangent      =              42.1477
Length       =              83.9899
Radius       =             402.9089
External     =               2.1985
Long Chord   =              83.8379
Mid. Ord.    =               2.1866
P.C.  Station            68+35.03  N        675.916.2626  E       2.485.846.5888
P.T.  Station            69+19.02  N        675.886.7723  E       2.485.768.1088
C.C.                                N        676.276.6307  E       2.485.666.3934
Back         = S  63° 26′ 00.59″ W
Ahead        = S  75° 22′ 38.28″ W
Chord Bear   = S  69° 24′ 19.43″ W

================================================================================
Ending chain WILLARDLOOP description

**        1   Describe Chain LEWISST

Chain LEWISST contains:
 208 209

Beginning chain LEWISST description
================================================================================

Point 208              N      676.148.7495 E    2.487.592.6811 Sta       20+00.00

Course from 208 to 209 N 4° 34′ 22.55″ W Dist 25.9722

Point 209              N      676.174.6390 E    2.487.590.6104 Sta       20+25.97

================================================================================
Ending chain LEWISST description

**        2   Describe Chain DENNISDR

Chain DENNISDR contains:
 200 201

Beginning chain DENNISDR description
================================================================================

Point 200              N      675.806.0554 E    2.488.388.8770 Sta       20+00.00

Course from 200 to 201 N 55° 35′ 12.55″ E Dist 40.6699

Point 201              N      675.829.0403 E    2.488.422.4290 Sta       20+40.67

================================================================================
Ending chain DENNISDR description
```

SCALE: 200.000 ft / in.
PEN TABLE: SCDOT Levels 2015 B&W Plan-PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\f_dgn\Const plpr\31810-02 Willard Reference Data Sheet 5B.dgn
11/19/2018

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BUTLER JR.

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
REFERENCE DATA SHEET

NTS

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	6	

(A) TO PREVENT FLOW FROM WILLARD LOOP ONTO SCDOT R/W NO PROPOSED DITCHES WILL BE CUT FROM STA.20+38.00 TO STA.20+50.00

DOWNSTREAM DRIVEWAY 18" RCP 180' FROM WILLARD LOOP
INVERT IN = 47.71
INVERT OUT = 47.61

NOTE: INSTALL 4" RAISED PERMANENT YELLOW BI-DIRECTIONAL PAVEMENT MARKERS EVERY 80' ALONG CENTER LINE.

REMOVE EXISTING PIPE WHERE PROPOSED PIPE IS SHOWN.

UTILITY POLES IN CONFLICT TO BE RELOCATED BY OTHERS.

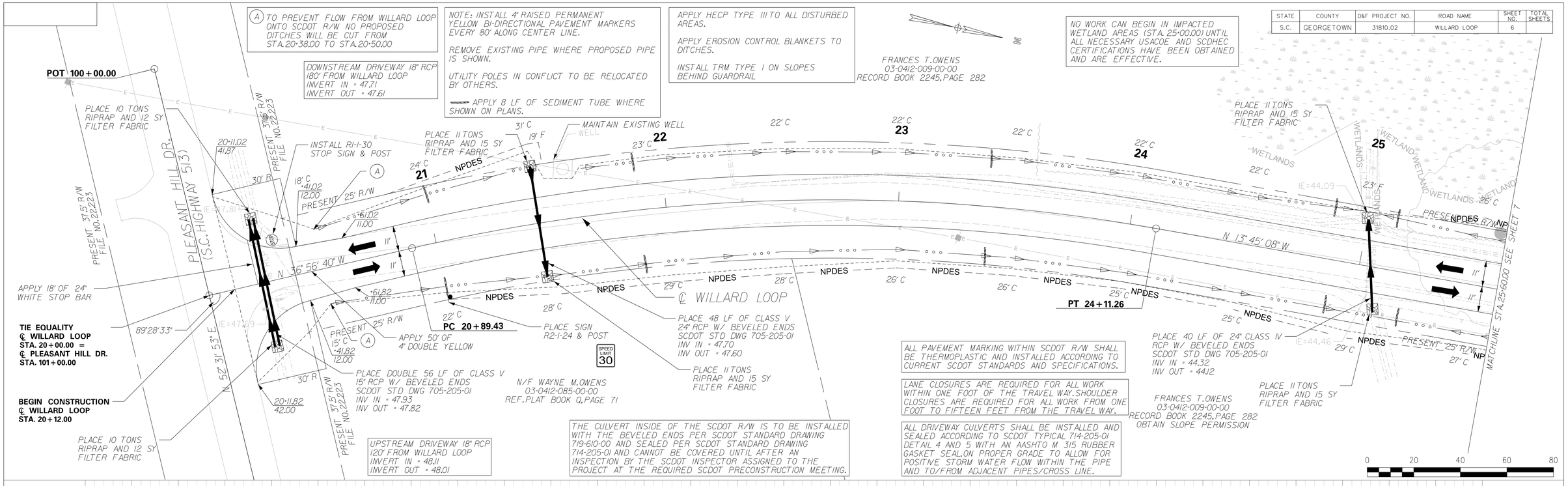
APPLY 8 LF OF SEDIMENT TUBE WHERE SHOWN ON PLANS.

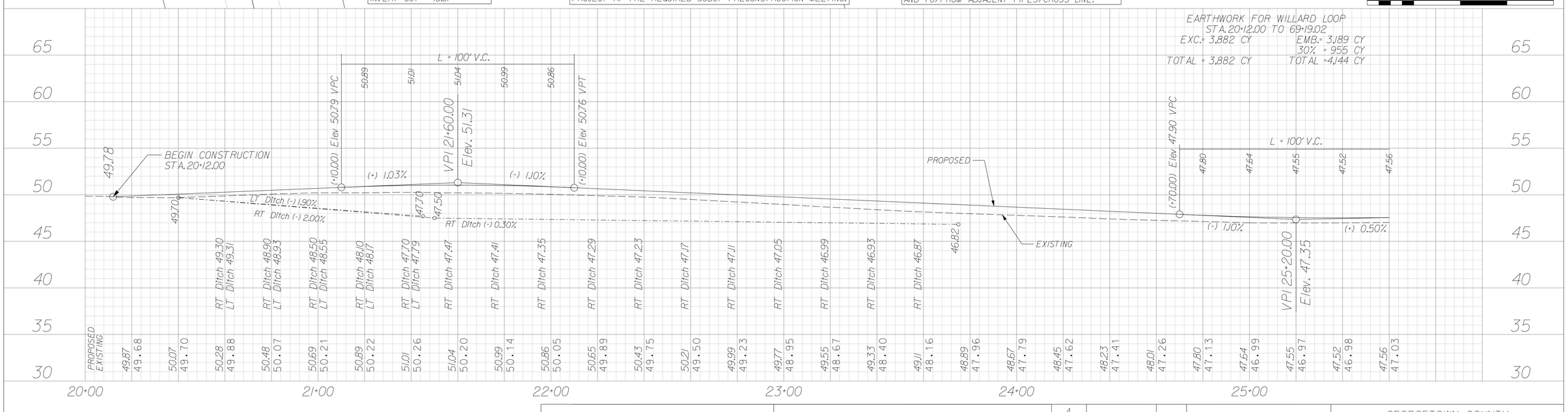
APPLY HECP TYPE III TO ALL DISTURBED AREAS.

APPLY EROSION CONTROL BLANKETS TO DITCHES.

INSTALL TRM TYPE I ON SLOPES BEHIND GUARDRAIL

NO WORK CAN BEGIN IN IMPACTED WETLAND AREAS (STA.25+00.00) UNTIL ALL NECESSARY USACOE AND SCDHEC CERTIFICATIONS HAVE BEEN OBTAINED AND ARE EFFECTIVE.





PROPOSED	EXISTING
49.78	49.87
49.70	49.68
50.07	50.07
50.28	49.70
50.48	49.88
50.69	50.07
50.89	50.21
51.01	50.22
51.04	50.26
50.99	50.20
50.86	50.14
50.65	50.05
50.43	49.89
50.21	49.75
49.99	49.50
49.77	49.23
49.55	48.95
49.33	48.67
49.11	48.40
48.89	48.16
48.67	47.96
48.45	47.79
48.23	47.62
48.01	47.41
47.80	47.26
47.64	47.13
47.55	46.99
47.52	46.97
47.56	46.98
	47.03

RT	LT
Ditch 49.30	Ditch 49.31
Ditch 48.90	Ditch 48.93
Ditch 48.50	Ditch 48.55
Ditch 48.10	Ditch 48.17
Ditch 47.70	Ditch 47.79
Ditch 47.47	
Ditch 47.41	
Ditch 47.35	
Ditch 47.29	
Ditch 47.23	
Ditch 47.17	
Ditch 47.11	
Ditch 47.05	
Ditch 46.99	
Ditch 46.93	
Ditch 46.87	

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9/18/2019

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20214 GEORGE TILLEY BILL

DAVIS & FLOYD
SINCE 1954
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3229 W. MONTAGUE AVENUE
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(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2	JJG	05/09/2019	ADJUSTED DITCHES
1	JJG	05/02/2019	ADJUSTED DITCHES, ADDED NOTES FOR EX. PIPES

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

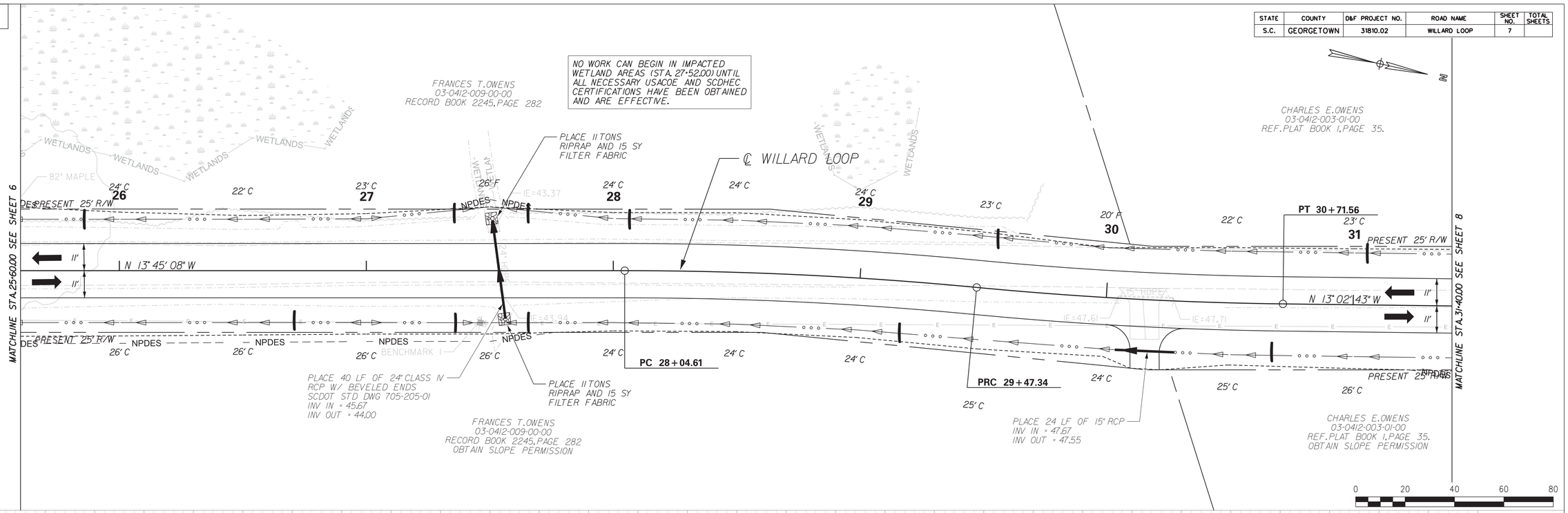
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

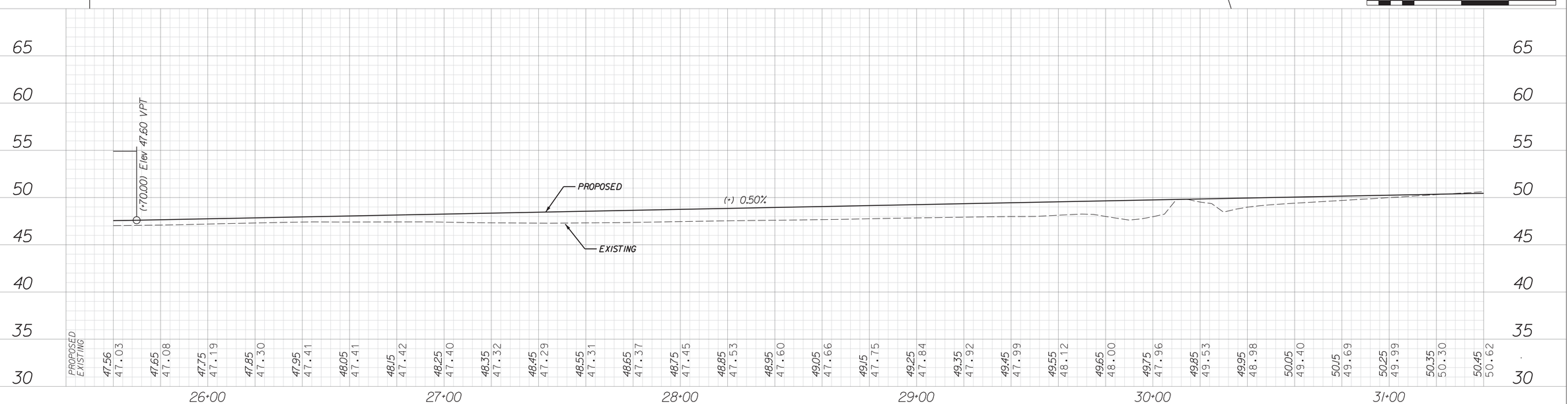
WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 20+00.00 TO STA. 25+60.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	7	

NO WORK CAN BEGIN IN IMPACTED WETLAND AREAS (STA. 27+52.00) UNTIL ALL NECESSARY USACOE AND SCDHEC CERTIFICATIONS HAVE BEEN OBTAINED AND ARE EFFECTIVE.





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11/19/2018

SOUTH CAROLINA — DAVIS & FLOYD, INC. — No. C00538 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — REGISTERED PROFESSIONAL ENGINEER — 4/22/19 — No. 20214 — GEORGE TILLEY BILL JR.

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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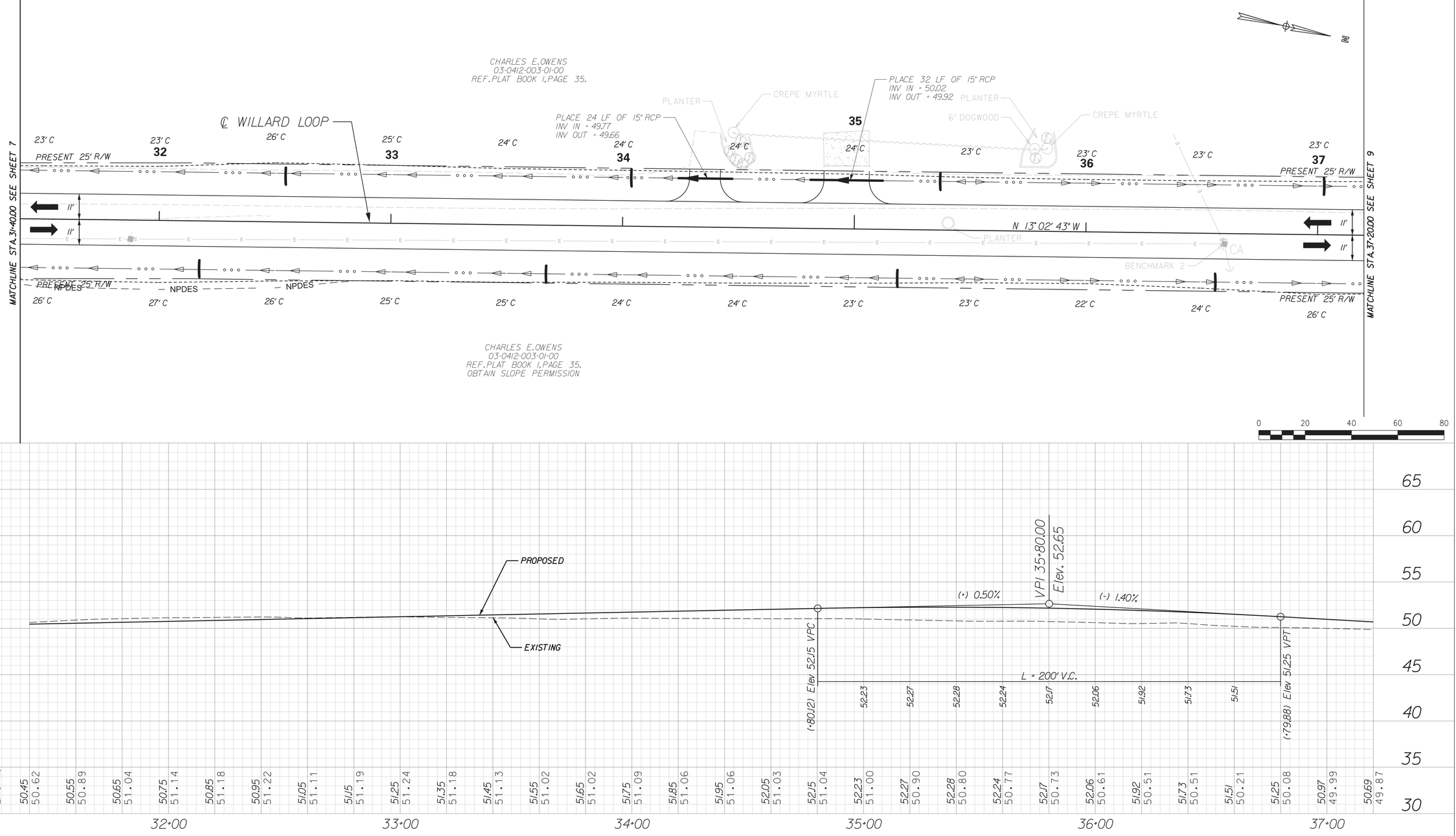
DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 25+60.00 TO STA. 31+40.00

SCALE 1" = 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	8	



20.000 ft / in.
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PEN TABLE:
PLOT DRIVER:
FILE:
11/19/2018

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/22/19
No. 20214
GEORGE TILLEY BLEDSOE

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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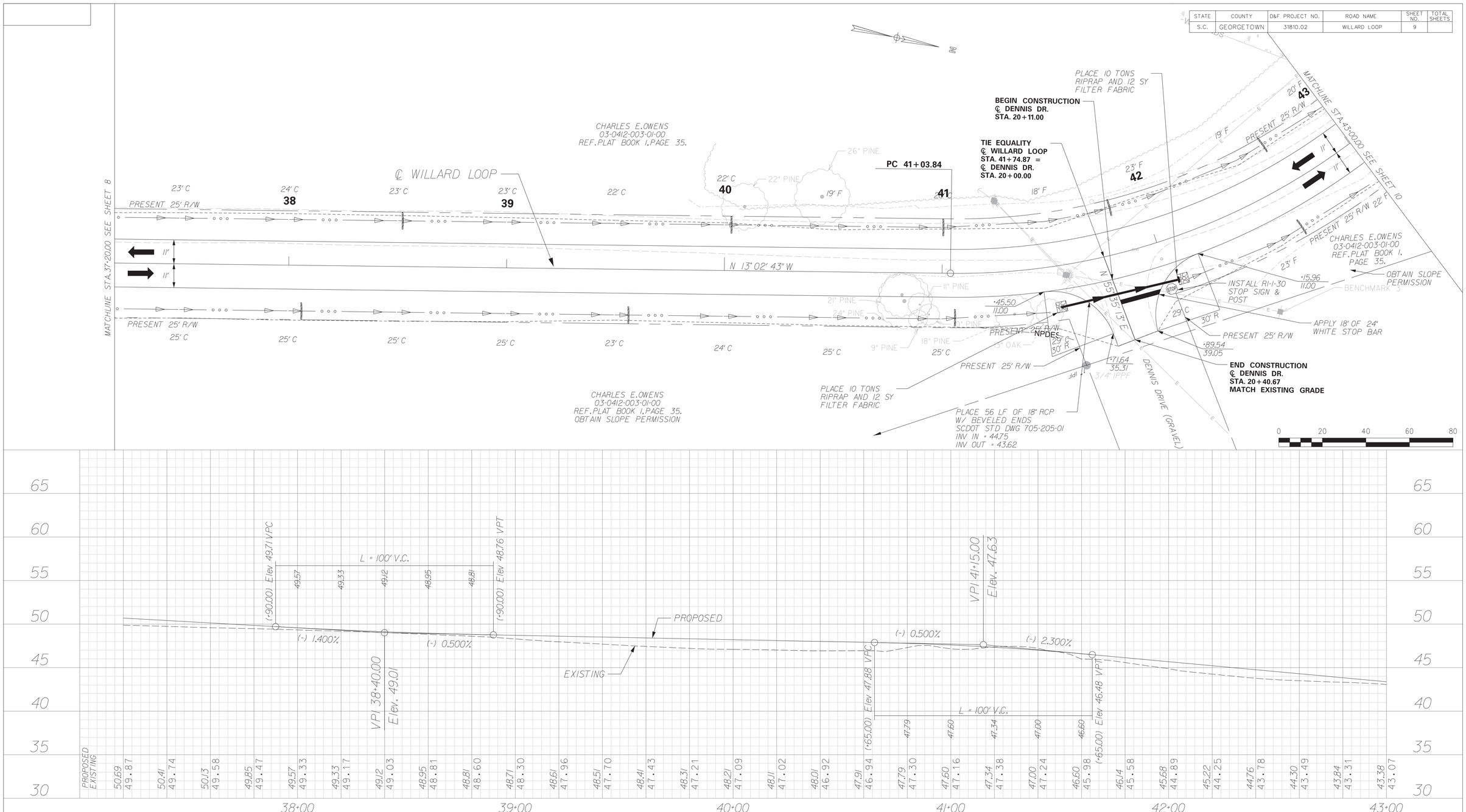
DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 31+40.00 TO STA. 37+20.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	9	



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11/19/2018

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BULLOCK

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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DGN. JKL DATE
R/W DATE
CHK. GTB DATE

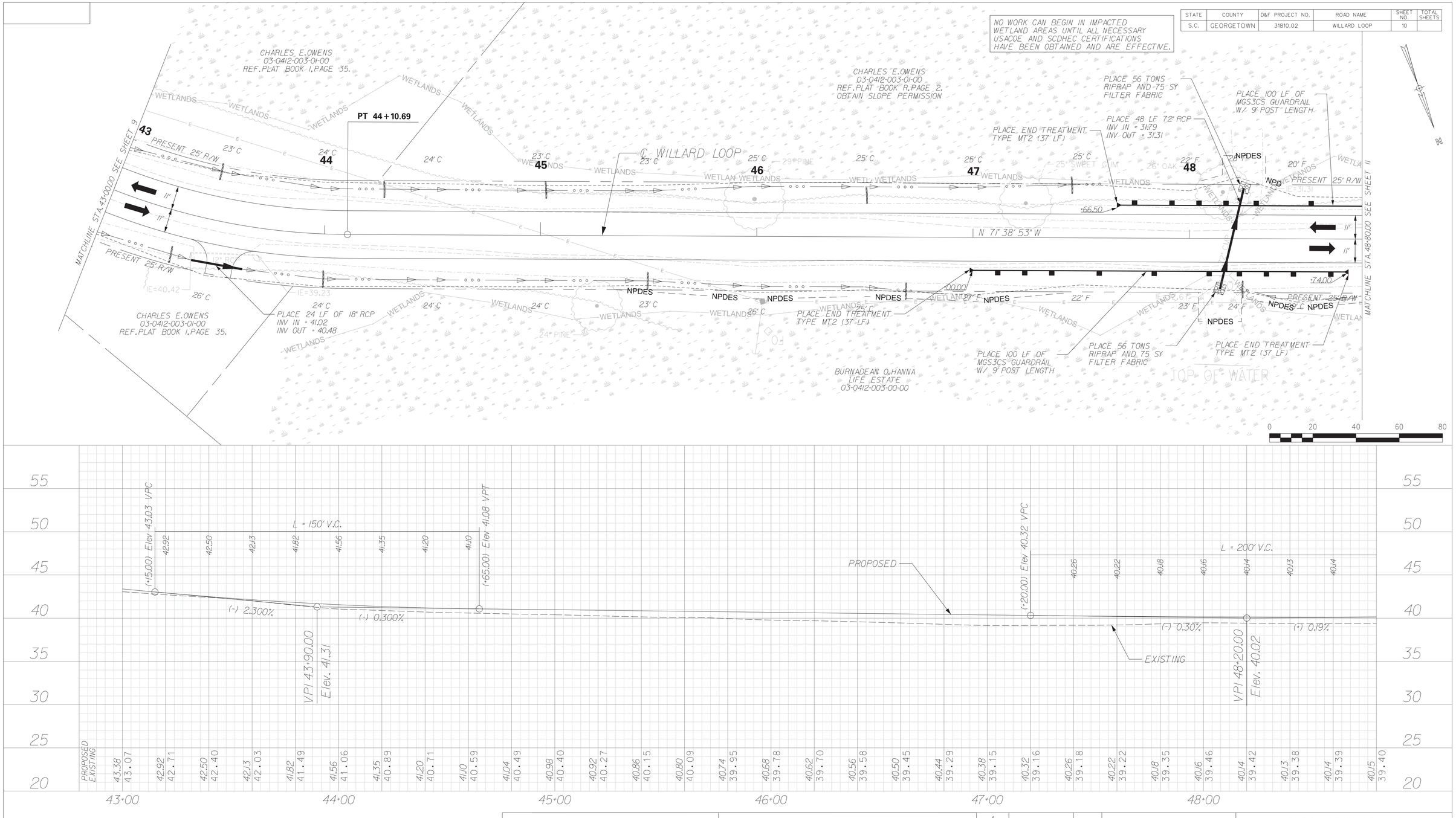
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 37+20.00 TO STA. 43+00.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	10	

NO WORK CAN BEGIN IN IMPACTED WETLAND AREAS UNTIL ALL NECESSARY USACOE AND SCDHEC CERTIFICATIONS HAVE BEEN OBTAINED AND ARE EFFECTIVE.



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PLOT DRIVER: PDF.pltcfg
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11/19/2018

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BALL

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 43+00.00 TO STA. 48+80.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
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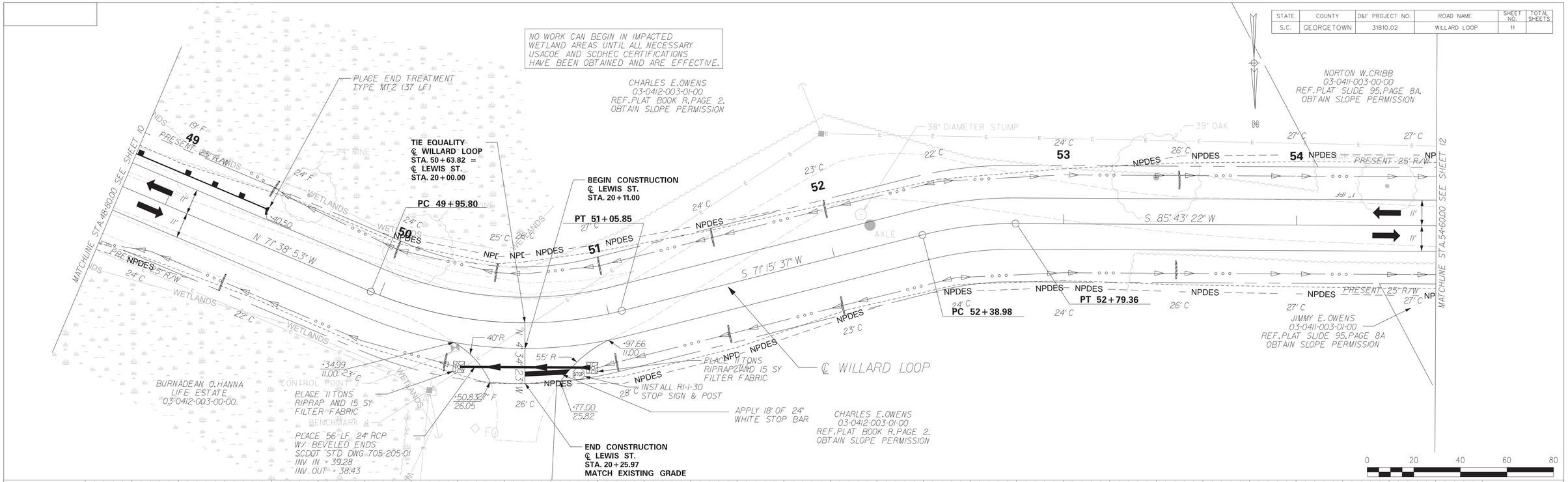

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11/19/2018

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20214 4/22/19 GEORGE TILLEY BILL

DAVIS & FLOYD

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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DGN. JKL DATE
R/W DATE
CHK. GTB DATE

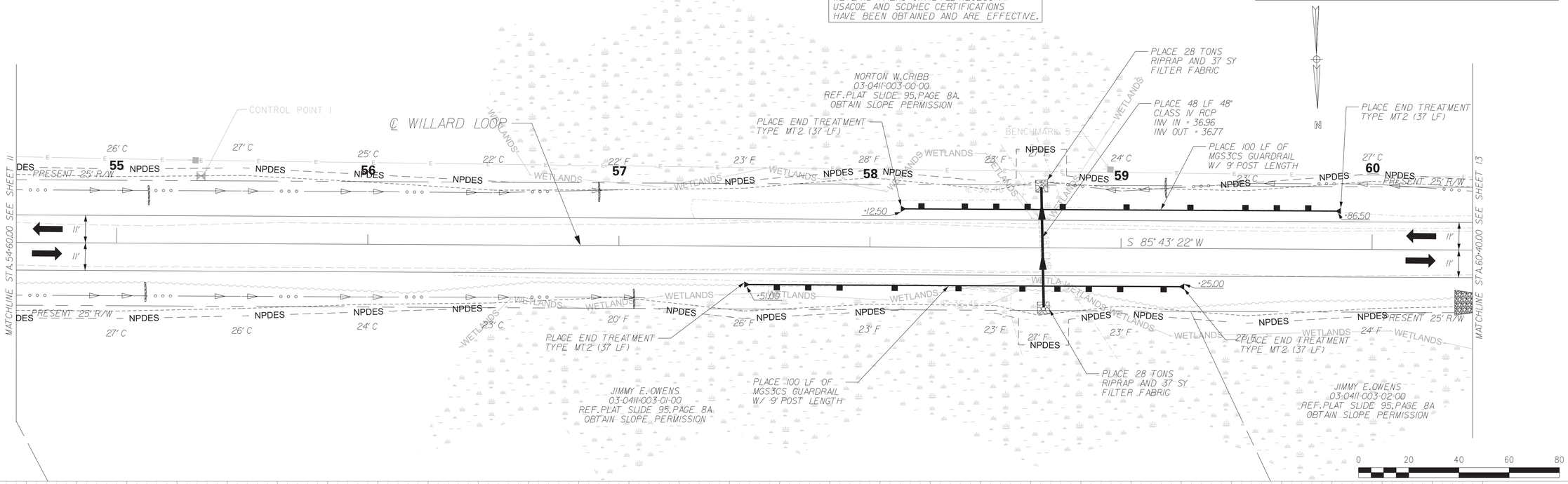
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

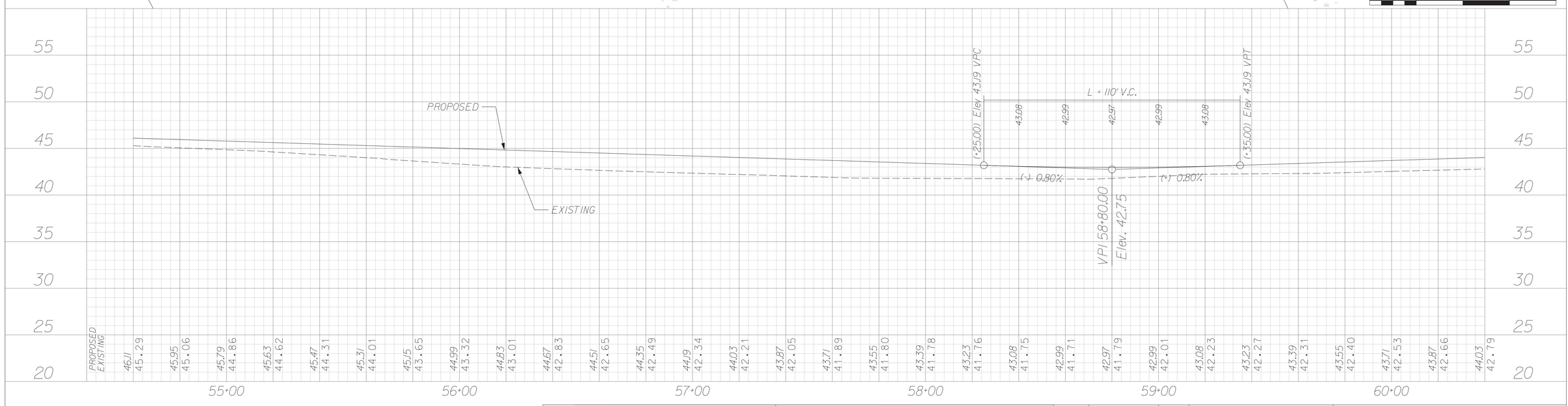
WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 48+80.00 TO STA. 54+60.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	12	

NO WORK CAN BEGIN IN IMPACTED WETLAND AREAS UNTIL ALL NECESSARY USACOE AND SCDHEC CERTIFICATIONS HAVE BEEN OBTAINED AND ARE EFFECTIVE.





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11/19/2018

DAVIS & FLOYD, INC. No. C00538 — CERTIFICATE OF AUTHORIZATION — SOUTH CAROLINA
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20014 — GEORGE TILLEY BULL — 4/22/19

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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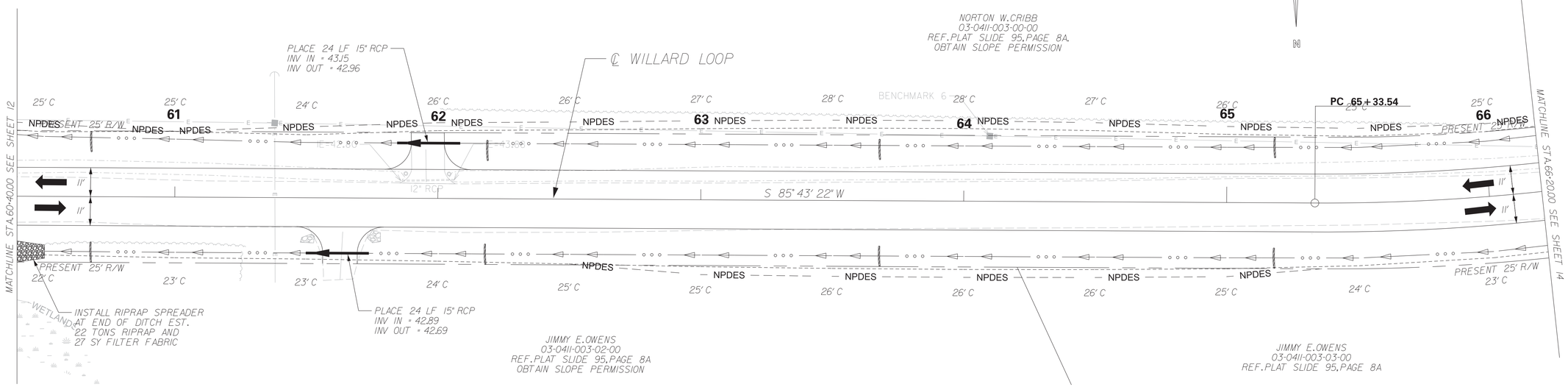
DGN. JKL DATE
R/W DATE
CHK. GTB DATE

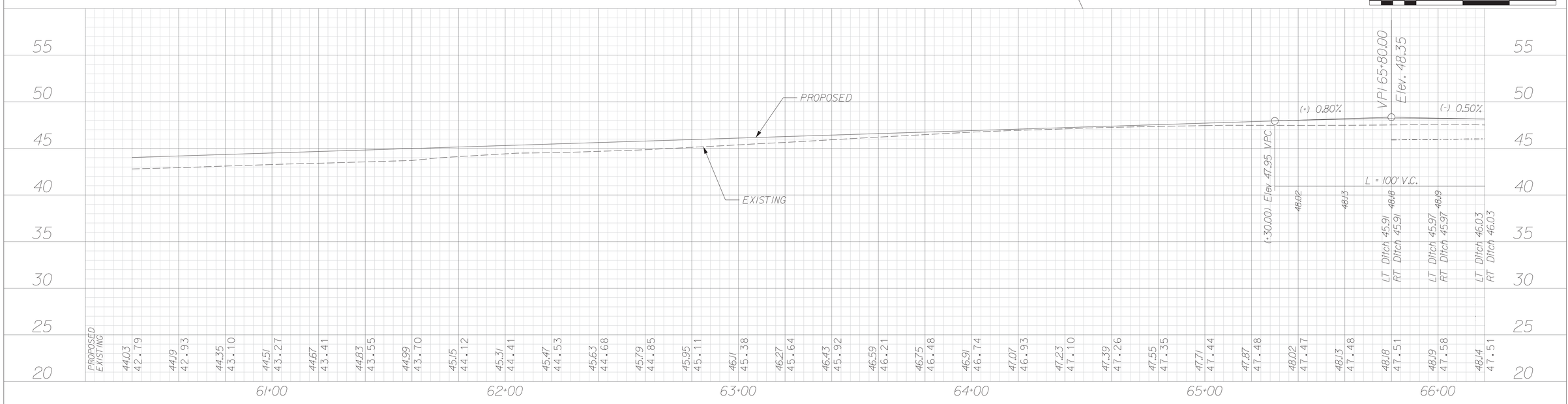
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 54+60.00 TO STA. 60+40.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	13	





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11/19/2018

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/22/19
No. 20214
GEORGE TILLEY BILL

DAVIS & FLOYD
SINCE 1954
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CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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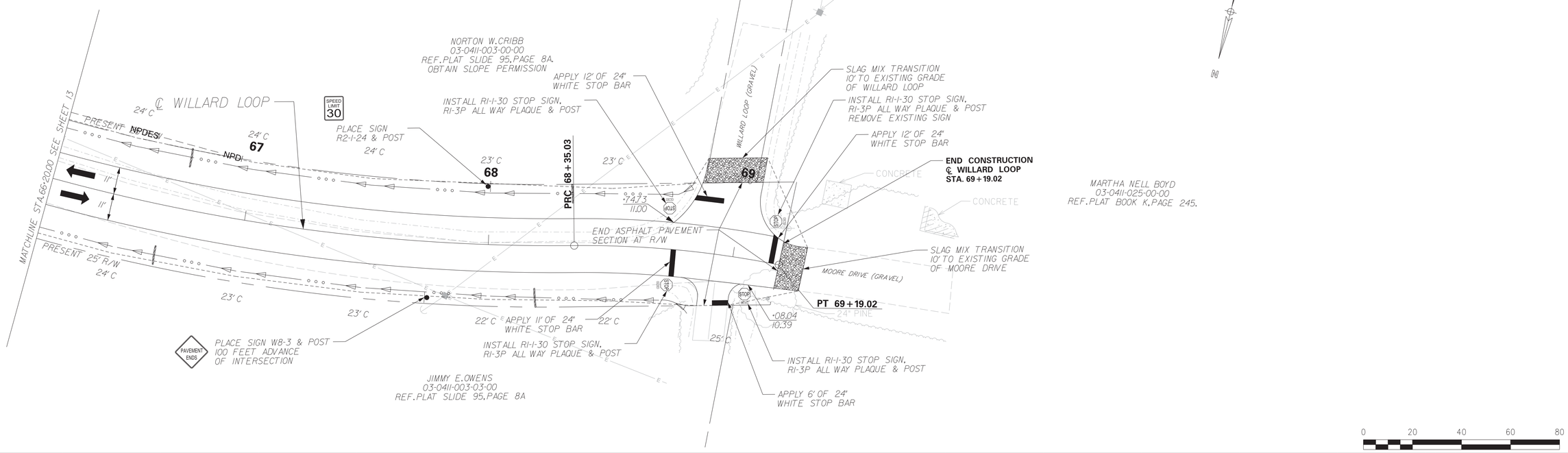
DGN. JKL DATE
R/W DATE
CHK. GTB DATE

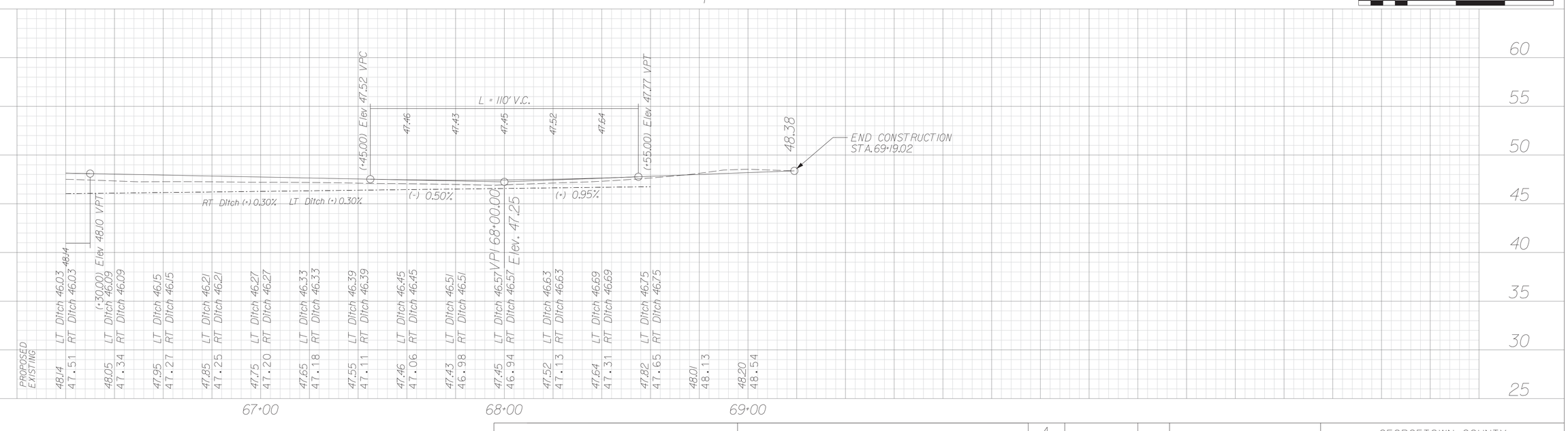
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 60+40.00 TO STA. 66+20.00

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	14	





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11/19/2018

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/22/19
No. 20214
GEORGE TILLEY BULL

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(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
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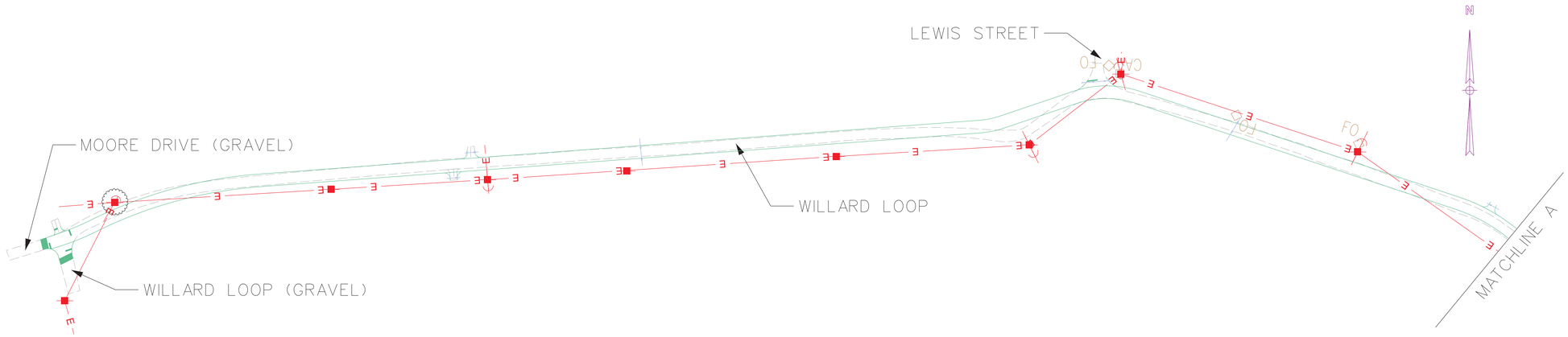
DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

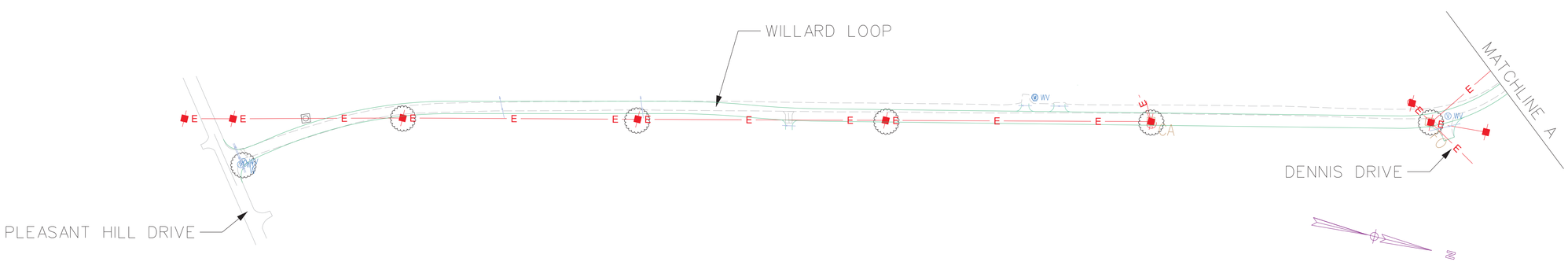
WILLARD LOOP
PLAN AND PROFILE SHEET
STA. 66+20.00 TO STA. 69+19.02

SCALE 1"= 20' HOR. 1" = 5' VER.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	U1	



FO	TELECOM
WV	WATER
E	POWER
	POTENTIAL CONFLICT



FOR INFORMATION ONLY
CONTRACTOR SHALL CALL
PUPS (811) BEFORE DIGGING

FOR UTILITY
COORDINATION ONLY

DAVIS & FLOYD

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
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R/W		DATE
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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
UTILITY SHEET

SCALE: 1" = 100'

SCALE: 100.000 ft / in.
PEN TABLE: Color PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\F_dgn\Const plpr\31810-02 Willard Utility Sheet U1.dgn
11/19/2018

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	EC1	

OCRM STANDARD NOTES

1. If necessary, slopes which exceed eight (8) feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.

2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below:
   •Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
   •Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the site.

3. All sediment and erosion control devices shall be inspected once every calendar week. If periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.

4. Provide silt fence and or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized immediately after the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the state.

5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from the construction area and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

7. Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with S.C. REG. 72-300 ET SEQ. and SCR100000.

8. Temporary diversion berms and or ditches will be provided as needed during construction to protect work areas from upslope runoff and or to divert sediment laden water to appropriate traps or stable outlets.

9. All waters of the state (WOS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WOS. A 10-foot buffer should be maintained between the last row of silt fence and all WOS..

10. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from being a pollutant source in storm water discharges.

11. A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.

12. Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume for a period of 7 calendar days.

13. Minimize soil compaction and, unless infeasible, preserve topsoil.

14. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

15. Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).

16. The following discharges from sites are prohibited:
   •Wastewater from washout of concrete, unless managed by an appropriate control;
   •Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
   •Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
   •Soaps or solvents used in vehicle and equipment washing.

17. After construction activities begin, inspections must be conducted at a minimum of at least once every calendar week and must be conducted until final stabilization is reached on all areas of the construction site.

18. If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.

19. A Pre-Construction Conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more this conference must be held on-site unless the Department has approved otherwise.

SEEDING INSTALLATION

A. Seed all disturbed areas of construction (excluding riprap lined ditches).

B. No seeding should be undertaken in windy or unfavorable weather, when the ground is too wet to rake easily, when it is in a frozen condition, or too dry.

C. The subgrade of all areas to be seeded shall be raked and all rubbish, sticks, roots, and stones larger than 2 IN shall be removed.

D. Fertilizer shall be uniformly spread and disked or roto-tilled to a depth of at least 4 IN.

E. Immediately following this preparation the seed shall be uniformly applied and lightly raked into the surface. Lightly roll the surface and water with fine spray. Seed shall be applied, depending on the period of year, at the rates indicated in Section 810 of the SCDOT Standard Specifications for Highway Construction (Edition 2007).

   All seeded areas shall be mulched with clean small-grain straw at a rate of 1½ to 2 tons per acre. Asphalt emulsion shall be applied uniformly at a rate of 300 GAL per acre to tack the mulch, unless otherwise shown on the plans. Mechanical tacking will be considered on a case-by-case basis as approved by the Engineer.

F. All seeded areas shall be watered and maintained in good condition. Reseeding shall be done if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.

G. Slopes shall be protected against washouts by an approved method. Any washout which occurs shall be regraded and reseeded until good sod is established.

SEQUENCE OF CONSTRUCTION

A. Obtain all permits.

B. Contact the office of Ocean and Coastal Resource Management (OCRM) at (843)238-4528 prior to commencing construction activities.

C. Install sediment erosion controls as follows:

1. Silt Fences shall be used to prevent silt from leaving the limits of construction.

2. Stabilized Graveled Construction Entrances shall be used at locations where construction vehicles access public non-construction areas. Vehicles shall be washed down as necessary to prevent tracking of silt offsite.

3. A temporary rock filter dam or sediment tube shall be used as ditch checks as directed by the Engineer.

4. Adhere by all of the OCRM Standard Notes listed on the right of this sheet and install BMP's per the SCDOT Standard Drawings for Erosion Control.

D. A recommended sequence of construction follows:

1. Clear and grub only areas necessary for perimeter erosion and sediment control silt fence, hay bales, and temporary sediment traps.

2. Construct perimeter controls.

3. Construct new drainage appurtenances within the areas protected by perimeter controls.

4. Install protection around inlets and stabilize disturbed areas as soon as possible (within 7 calendar days).

5. Proceed with construction. Limit disturbed areas to areas with work in progress to limit disruption to traffic. Schedule work to maintain access to all driveways as long as possible.

6. Erosion controls may be removed after the area contributing flow to that particular erosion control device has been stabilized.

7. Stabilize all remaining areas.

8. Clean out temporary sediment control as needed; check controls every seven (7) days.

9. Remove sediment controls 30 days after all disturbed areas have stabilized.

STANDARD EROSION CONTROL DRAWINGS

DRAWING NO.	DRAWING DESCRIPTION	LATEST REVISION
815-205-00	SEDIMENT TUBE DITCH APPLICATION	8/2012
815-605-00	TEMPORARY EROSION & SEDIMENTATION CONTROL	8/2012
804-305-00	RIPRAP (OUTLET PROTECTION W/ NO DEFINED CHANNEL)	2/2015
804-310-00	RIPRAP (OUTLET PROTECTION W/ DEFINED CHANNEL)	2/2015

Copies of SCDOT Standard Drawings are available at the following web address http://www.scdot.org/business/standard-drawings.aspx

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD

SINCE 1954

WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
EROSION CONTROL NOTES SHEET

SCALE: 200.000 ft / in.
PEN TABLE: SCDOT Levels 2015 B&W Plan-PDF.tbl
PLOT DRIVER: PDF.pltcfg
FILE: G:\JobsEven\31810-02\Production\Transportation\Willard\f_dgn\Const plpr\31810-02 Willard Erosion Control Notes Sheet EC1.dgn
11/19/2018

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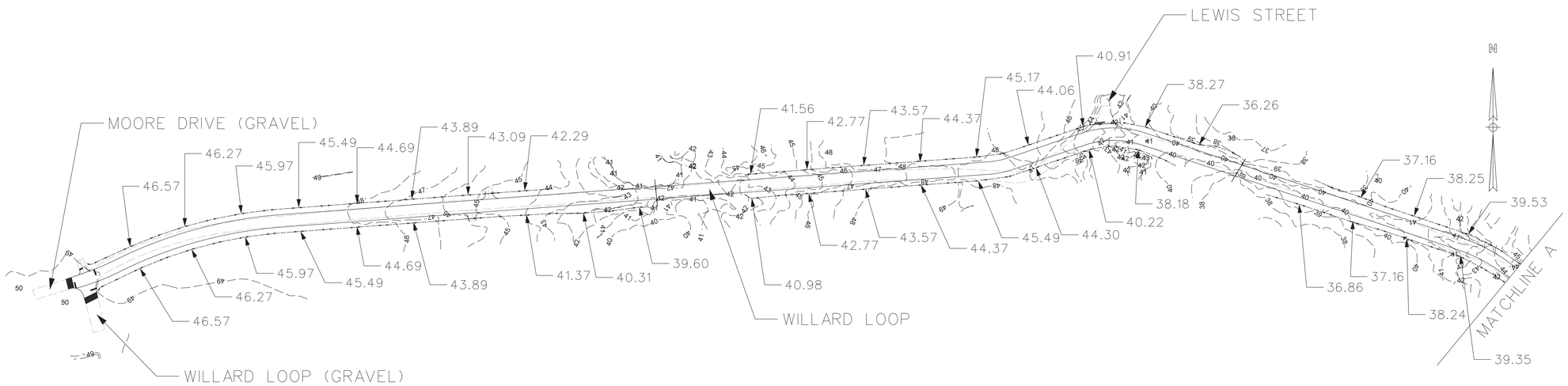
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	EC2	

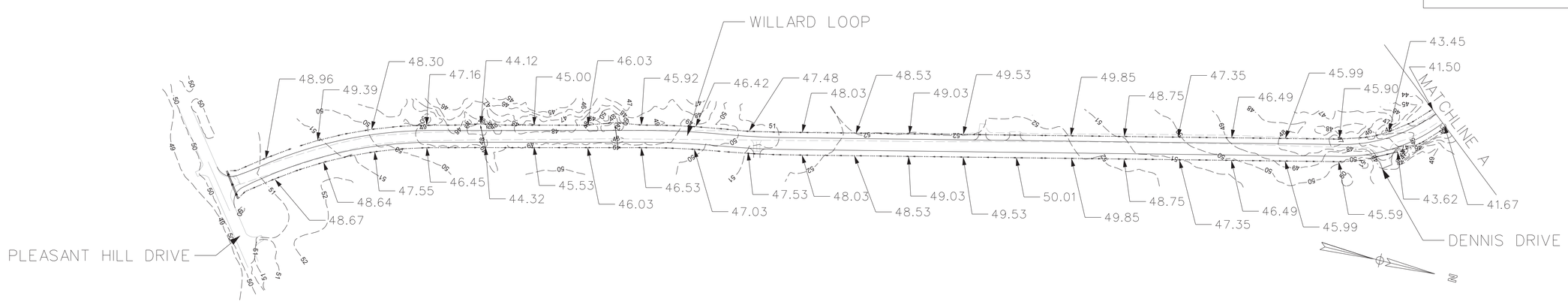


LEGEND

50 EXISTING CONTOUR

45.25 PROPOSED DITCH SPOT ELEVATION

PROPOSED DITCH LINE



FOR PERMIT CONSIDERATION ONLY

DAVIS & FLOYD

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3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

DGN. JKL DATE
R/W DATE
CHK. GTB DATE

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

WILLARD LOOP
CONTOUR SHEET

SCALE: 1" = 100'

SCALE: 100.000 ft / in.
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PLOT DRIVER: PDF.pltcfg
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11/19/2018

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
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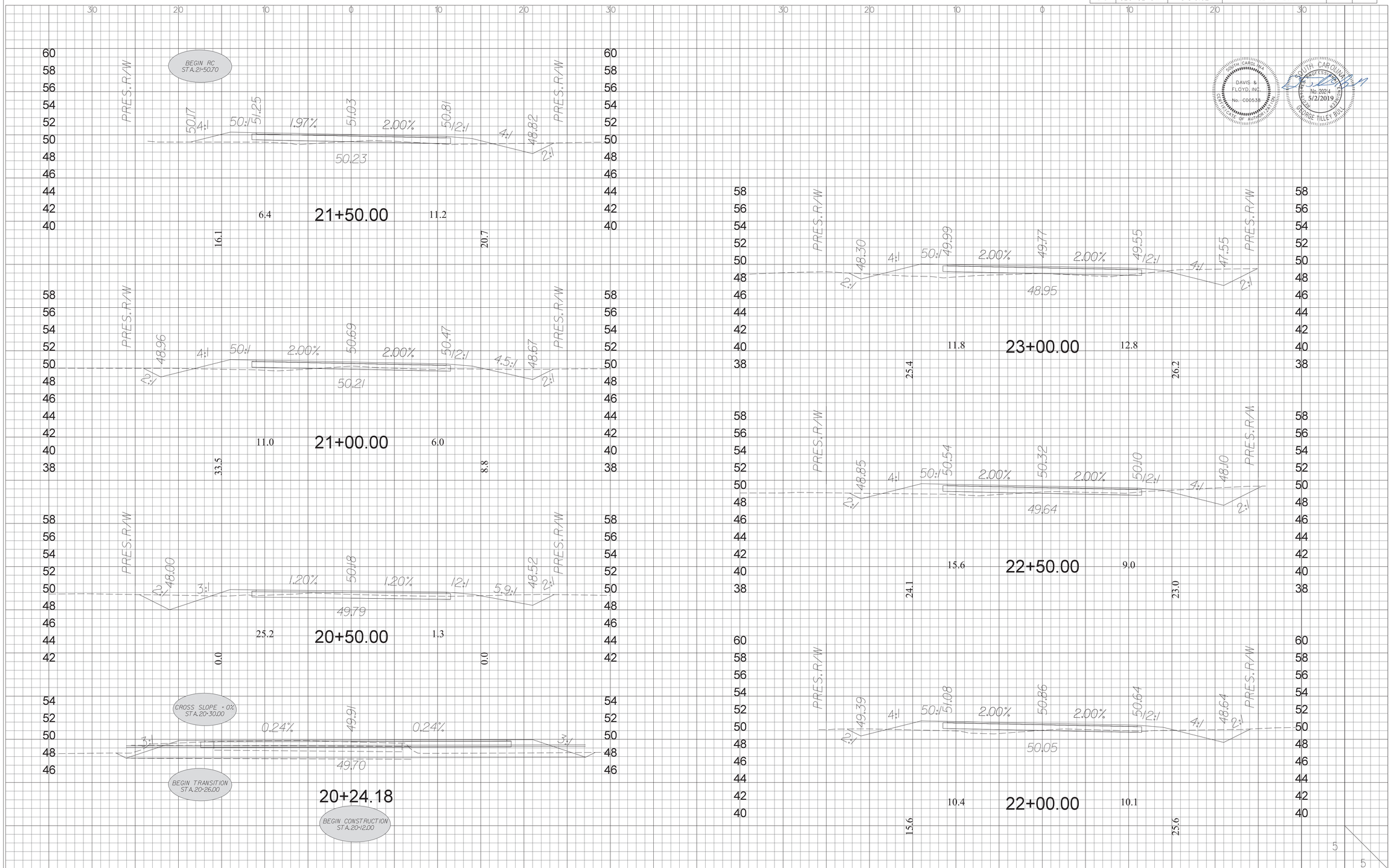

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STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X2	

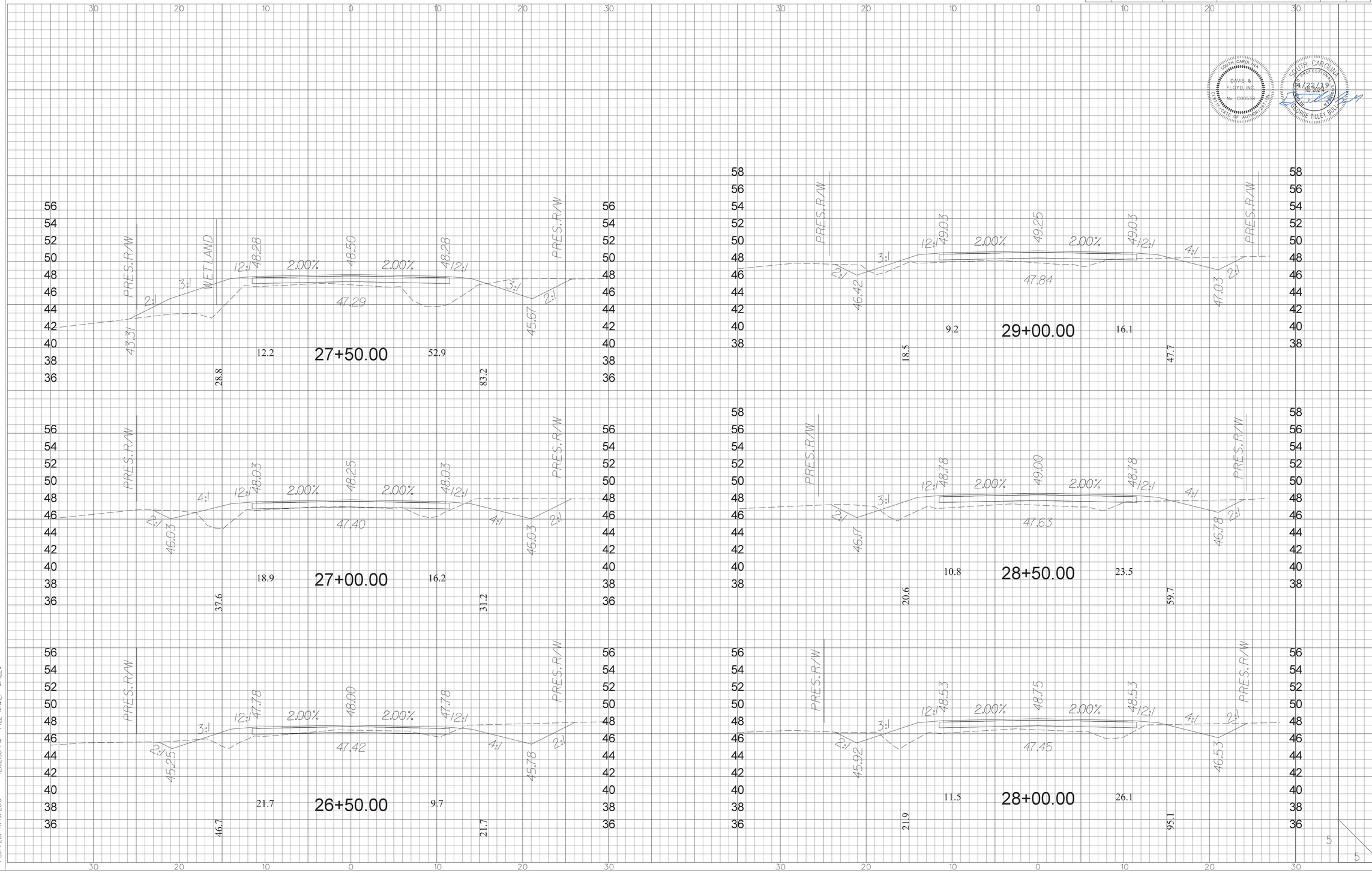
DAVIS & FLOYD, INC.
No: C00538
STATE OF AUTHORIZATION
GEORGETOWN, S.C.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
4/22/19
No. 20024
GEORGE TILLEY BULL

PLOTTED: 11/19/2018 12:02:33 PM FILE NAME: $FILE$

5 / 5

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X3	



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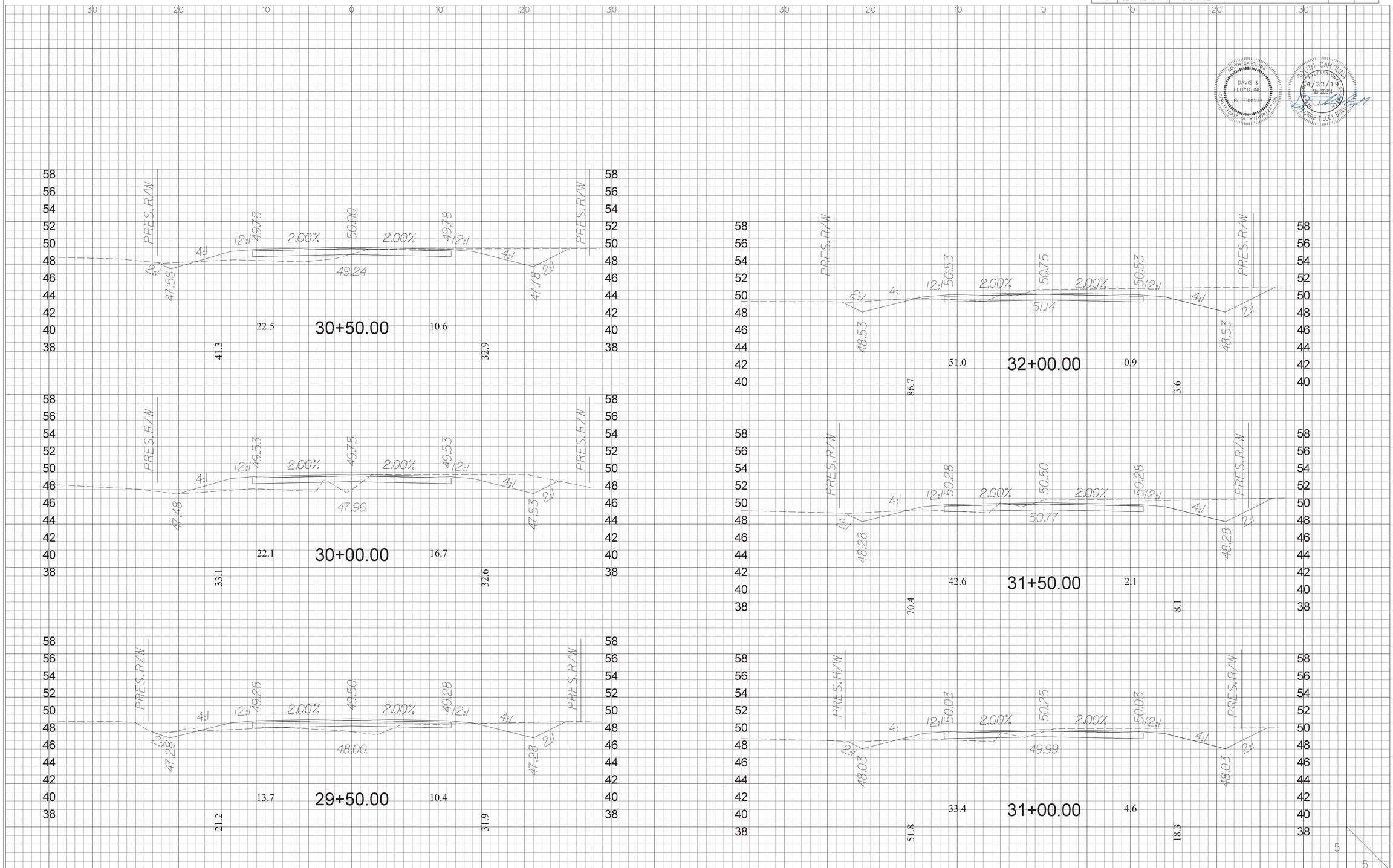
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X4	

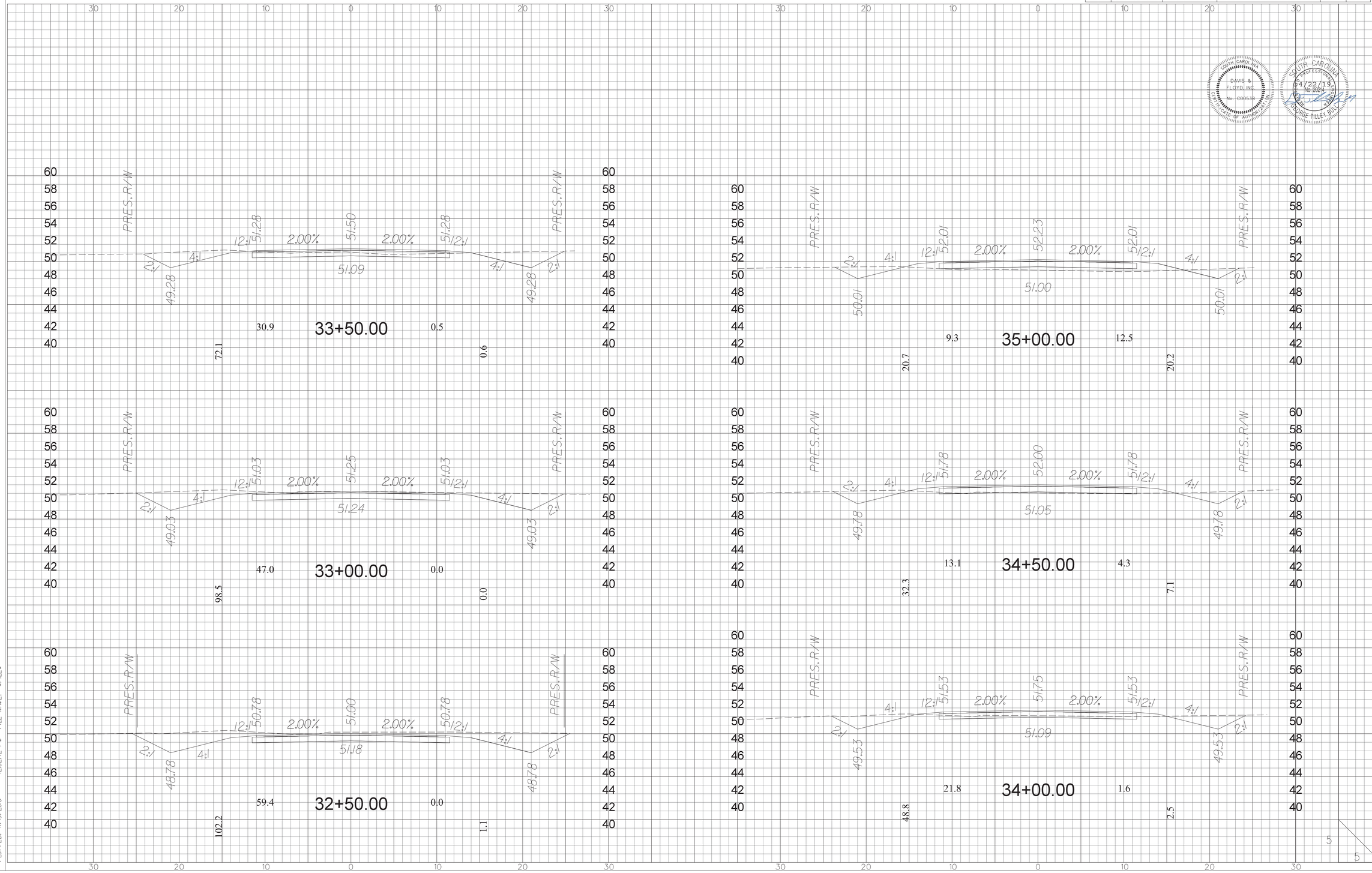


SOUTH CAROLINA
DAVIS & FLOYD, INC.
No: C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
04/22/19
No. 20214
GEORGE TILLEY BATTLE

PLOTTED: 11/19/2018 12:02:39 PM FILE NAME: $FILE$

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X5	



DAVIS & FLOYD, INC. No: C00538 STATE OF AUTHORIZATION GREENVILLE, SOUTH CAROLINA

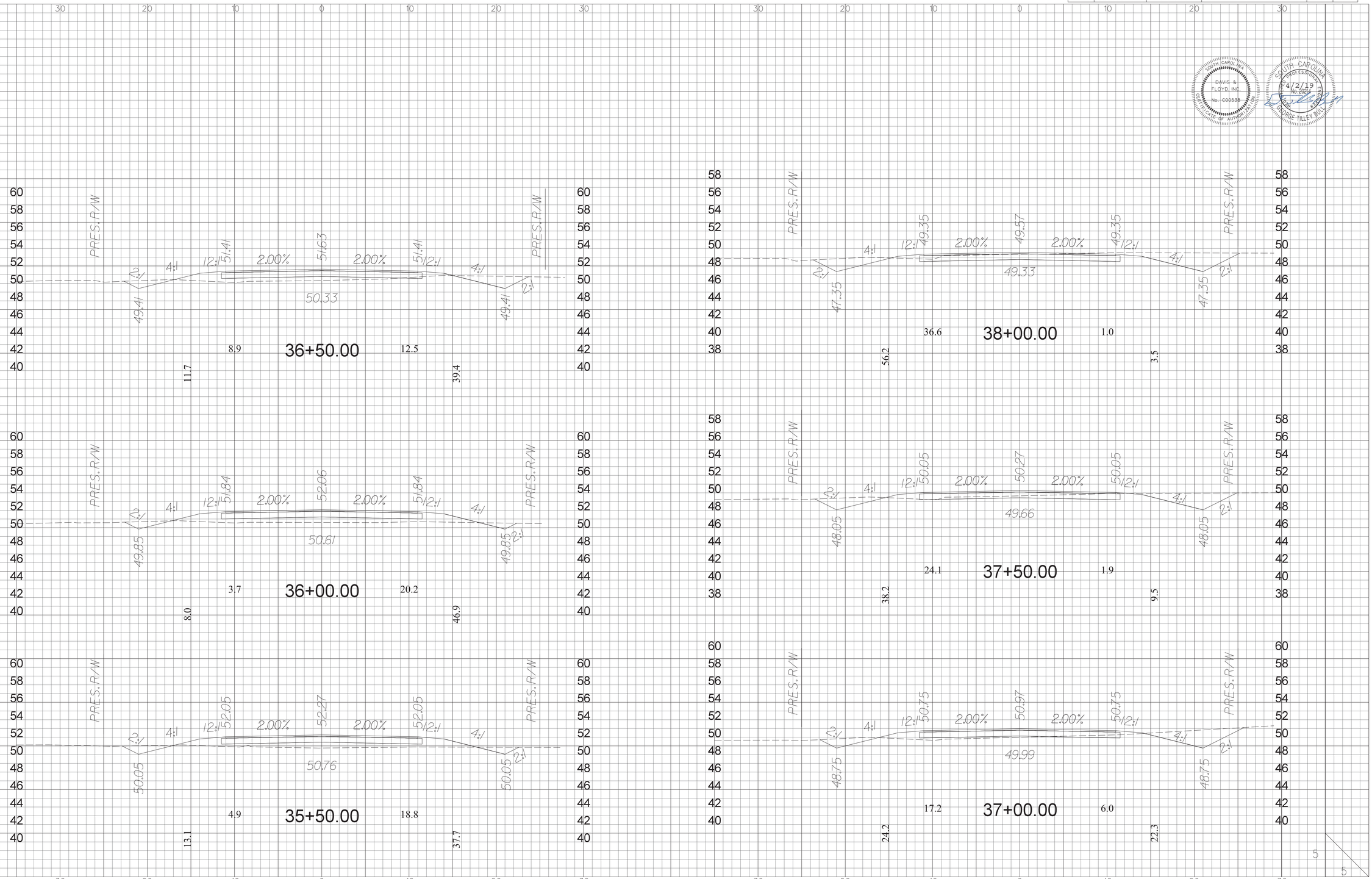
SOUTH CAROLINA PROFESSIONAL ENGINEER No. 20214 GEORGE TILLEY BULL

4/22/19

PLOTTED: 11/19/2018 12:02:42 PM FILE NAME: $FILE$

5 / 5

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X6	



DAVIS & FLOYD, INC. No: C00538 STATE OF AUTHORIZATION GREENVILLE, SOUTH CAROLINA

SOUTH CAROLINA PROFESSIONAL ENGINEER 4/2/19 No. 20024 GEORGE TILLEY BULL

PLOTTED: 11/19/2018 12:02:44 PM FILE NAME: $FILE$

5 / 5

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
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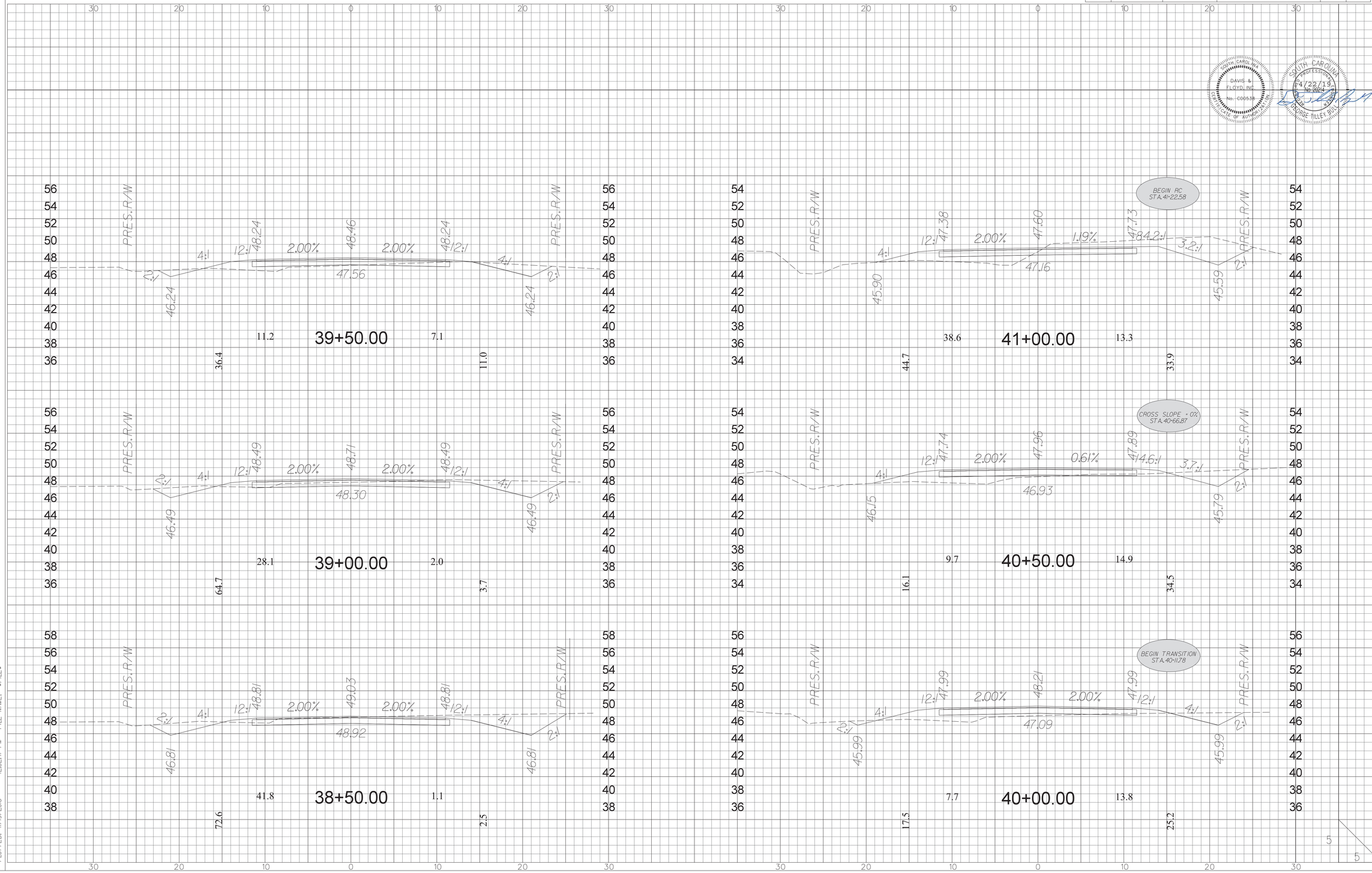

DAVIS & FLOYD, INC.
No: C00538
STATE OF AUTHORIZATION
GREENVILLE, SOUTH CAROLINA

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 20214
04/22/19
GEORGE TILLEY BUTLER III

PLOTTED: 11/19/2018 12:02:47 PM FILE NAME: $FILE$

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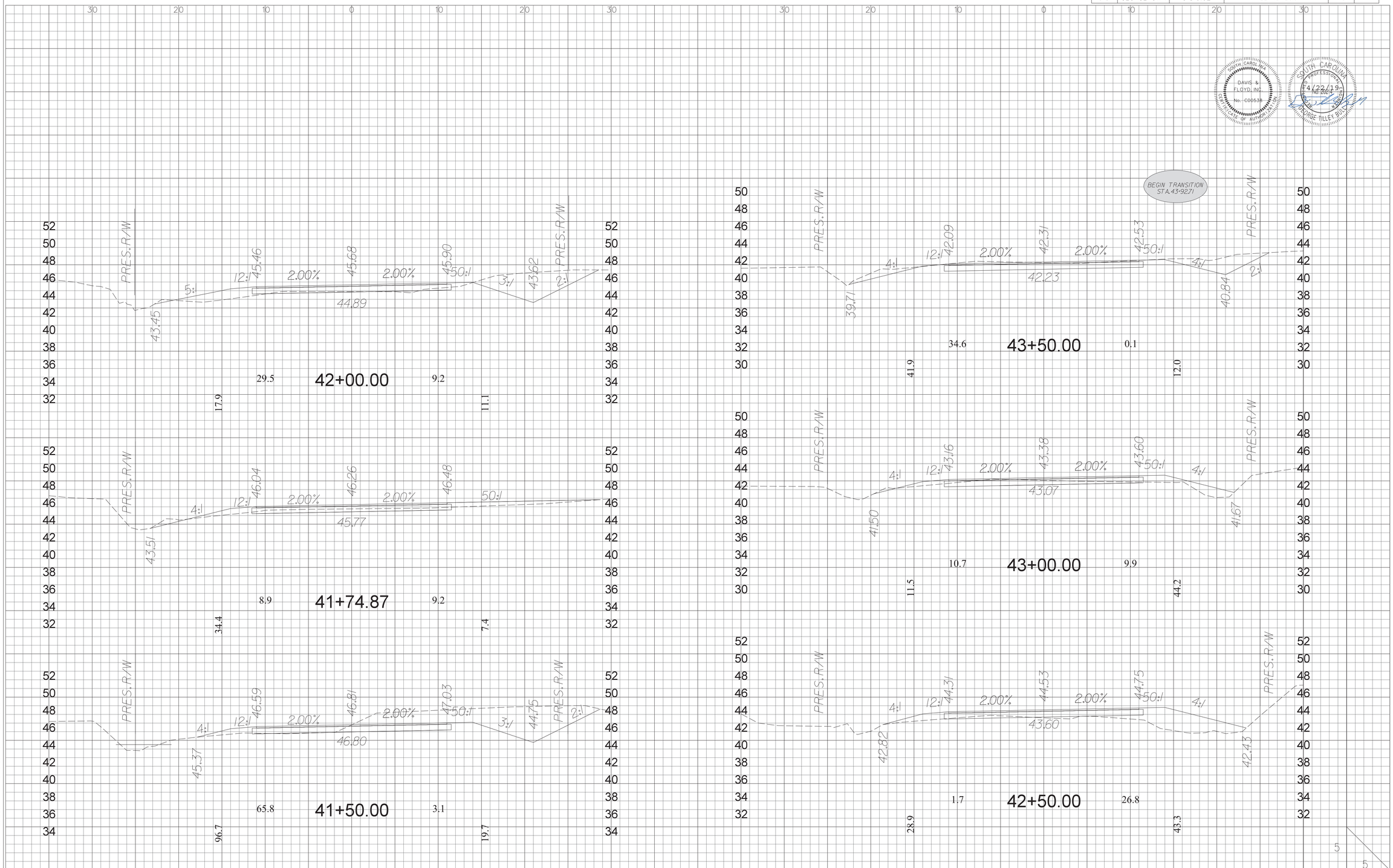
STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X8	



DAVIS & FLOYD, INC.
No. C00538
STATE OF AUTHORIZATION
GREENVILLE, SOUTH CAROLINA

SOUTH CAROLINA
PROFESSIONAL ENGINEER
GEORGE TILLEY BULL
No. 29304
4/22/19

PLOTTED: 11/19/2018 12:02:50 PM FILE NAME: $FILE$

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STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X9	

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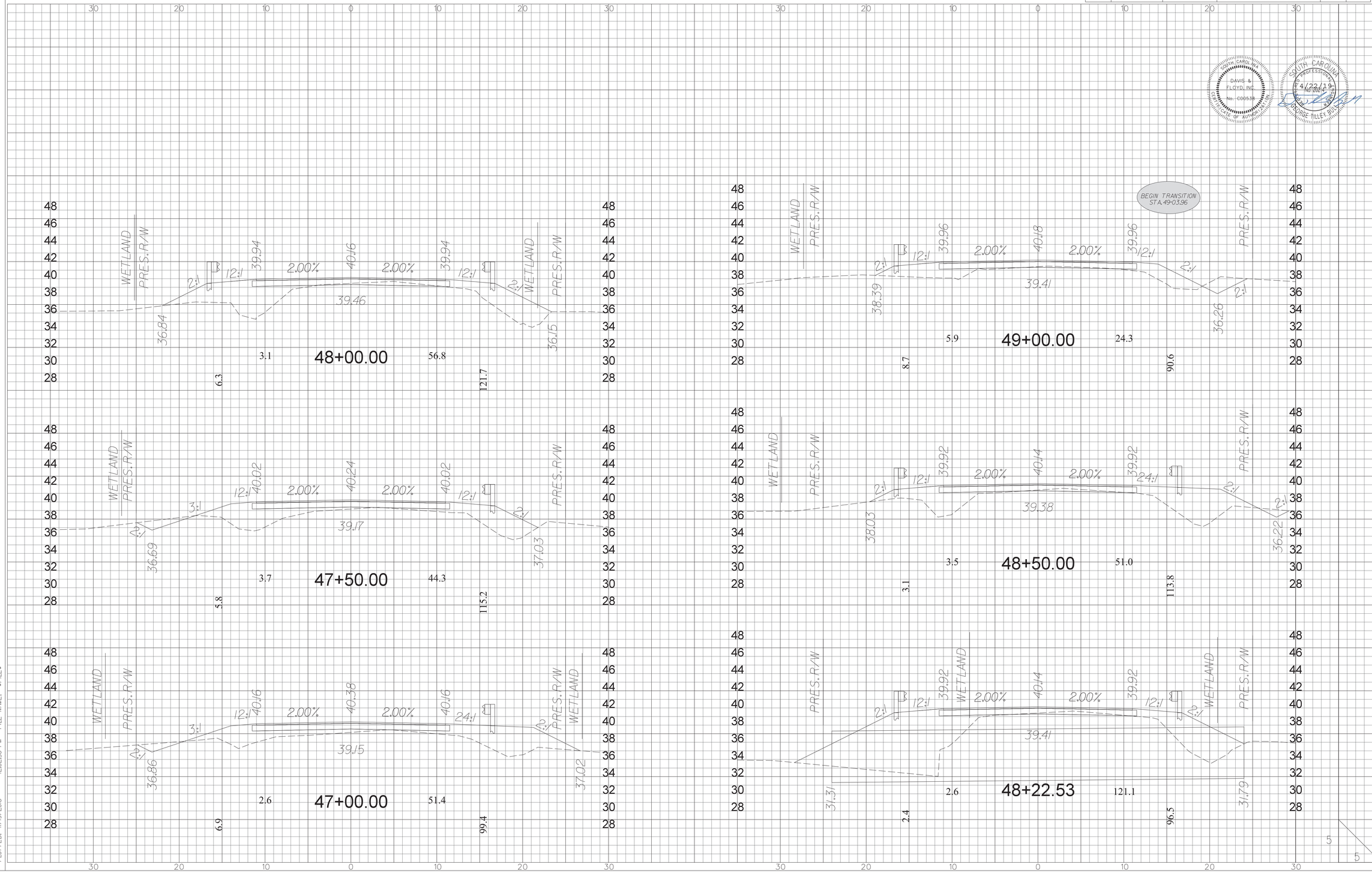
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X10	



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STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X11	

DAVIS & FLOYD, INC.
No: C00538
STATE OF AUTHORIZATION
GEORGETOWN, SOUTH CAROLINA

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 20241
4/22/19
GEORGE TILLEY BULL

PLOTTED: 11/19/2018 12:02:59 PM FILE NAME: $FILE$

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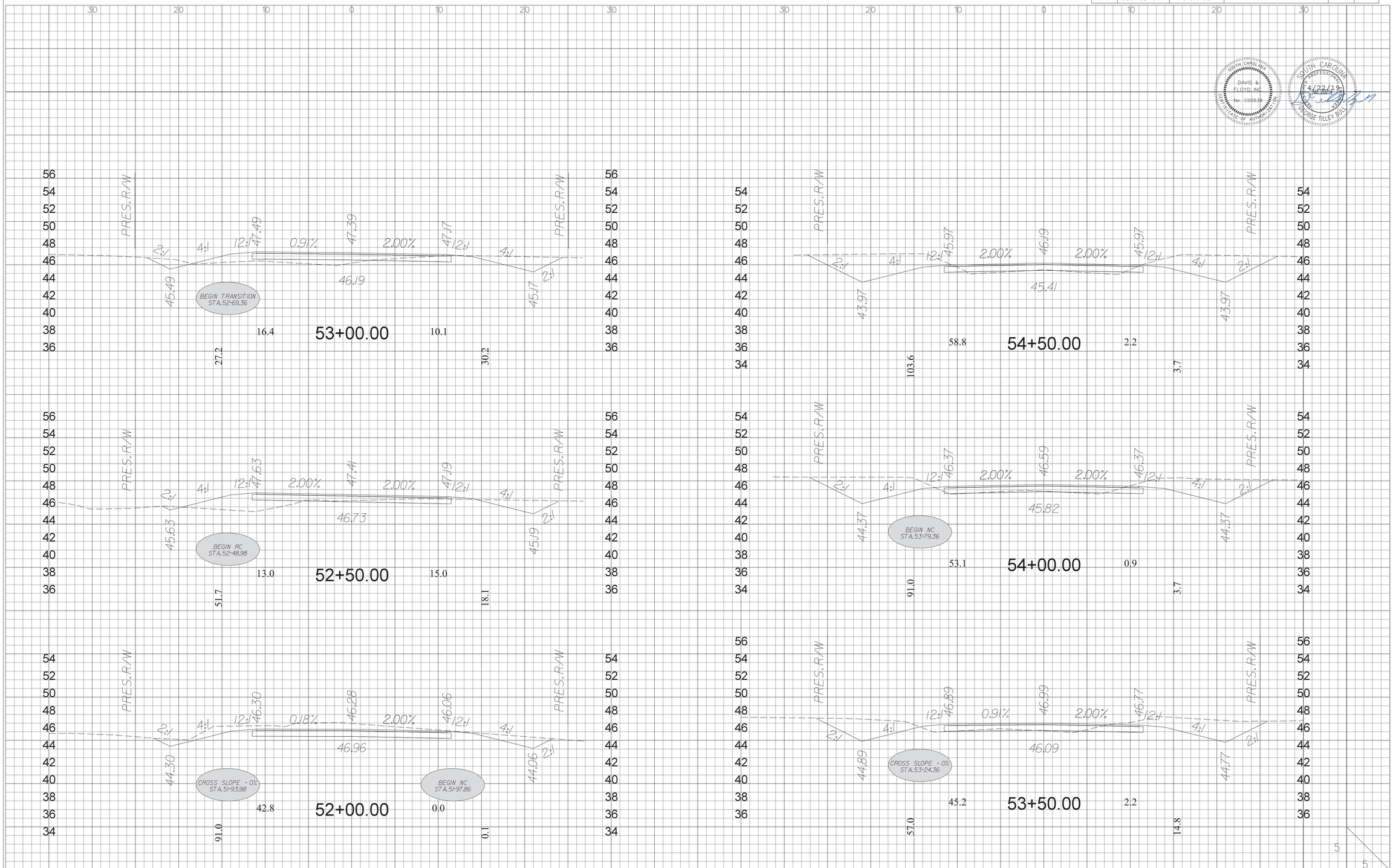

DAVIS & FLOYD, INC. No. C00538 STATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER 4/22/19 GEORGE TILLEY BULL

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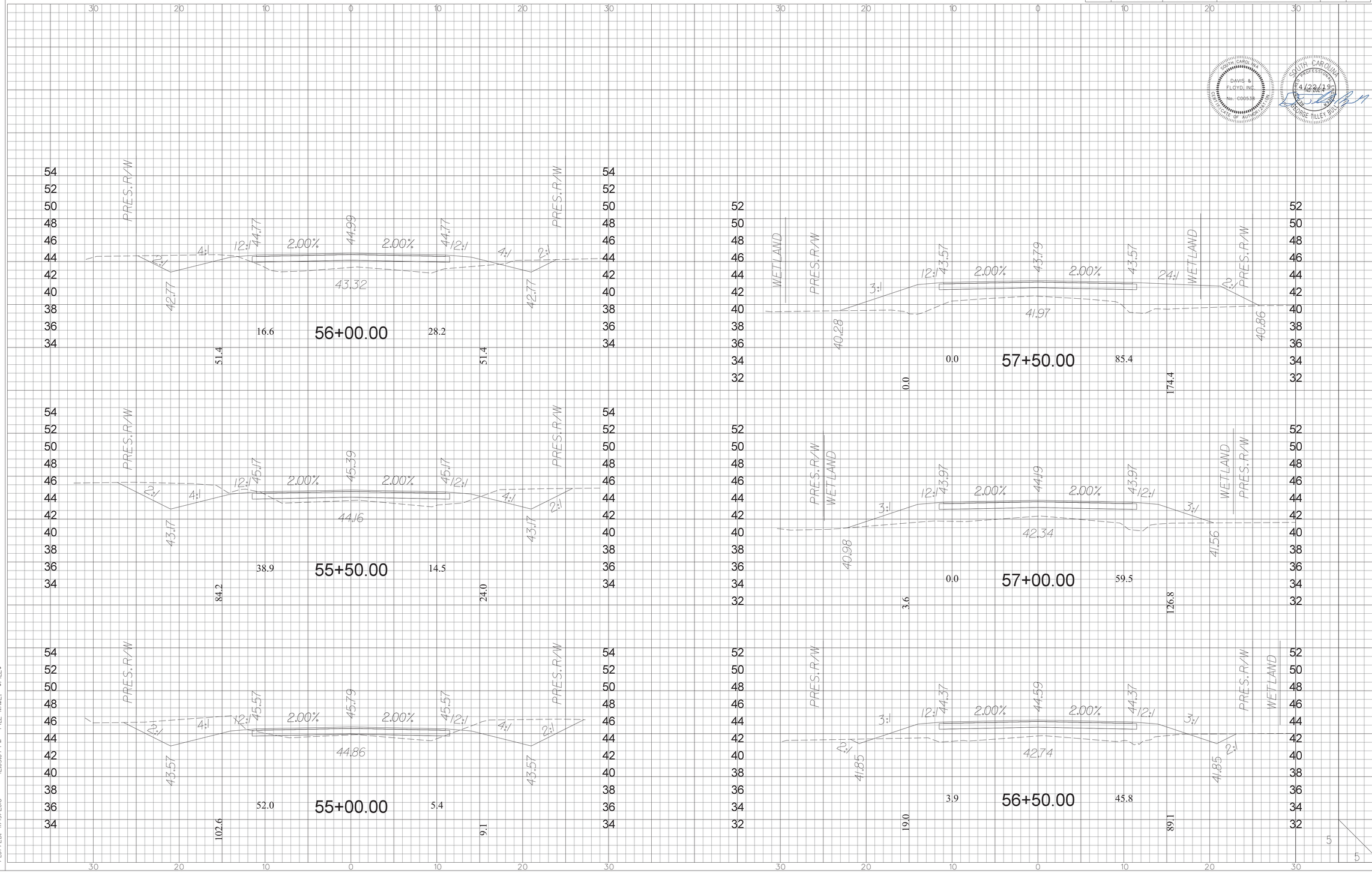

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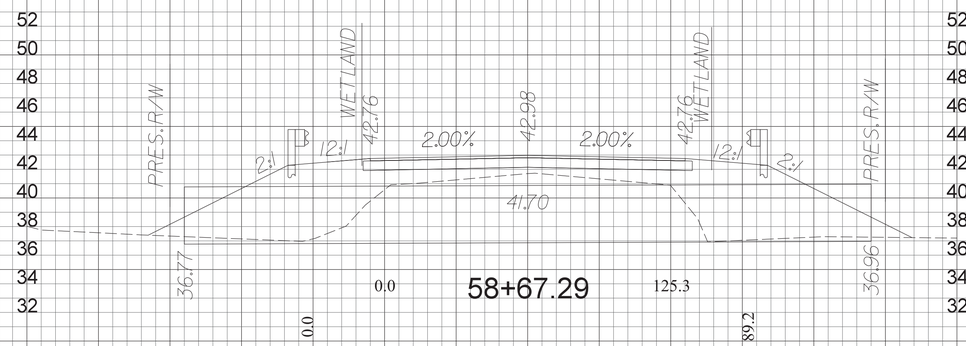

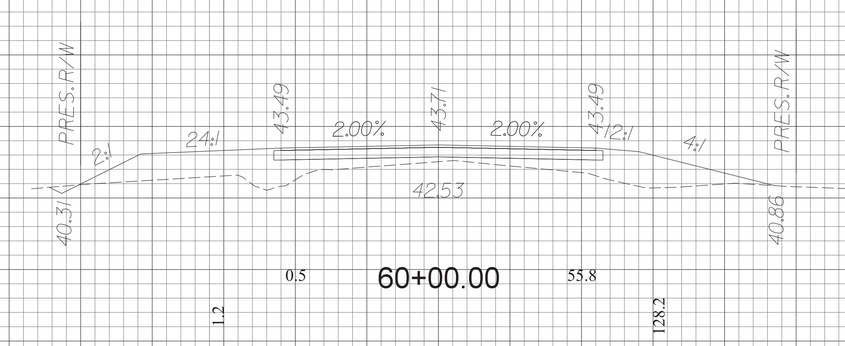

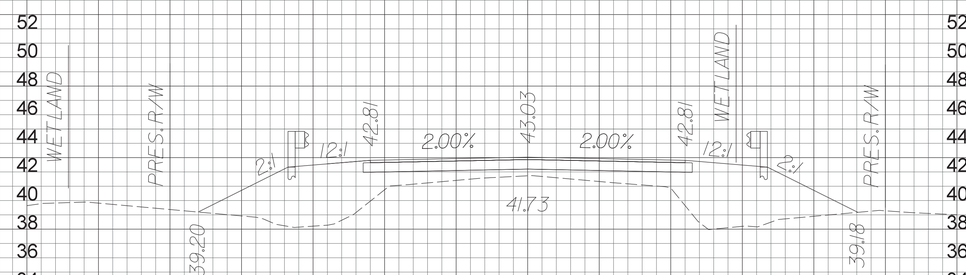

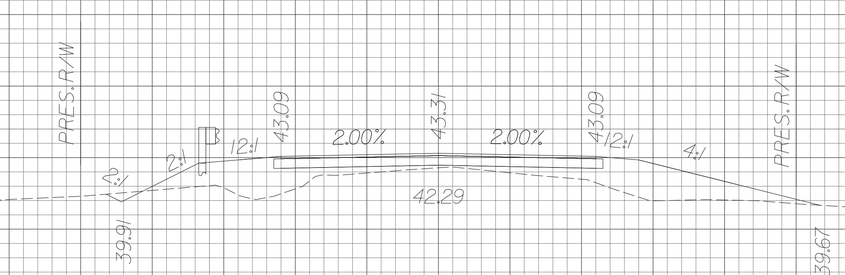

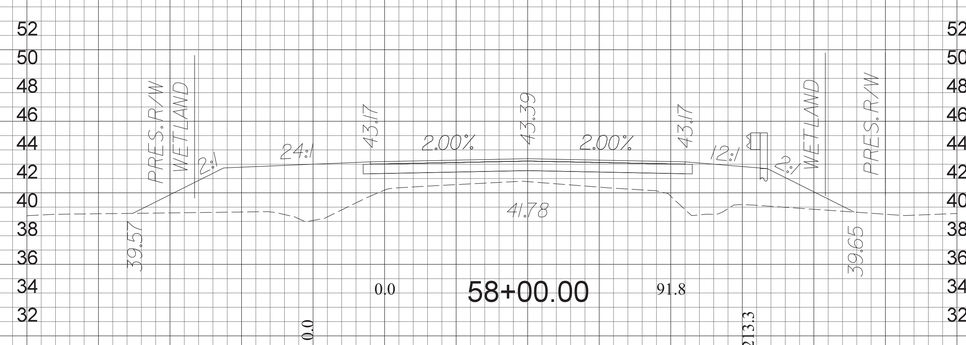

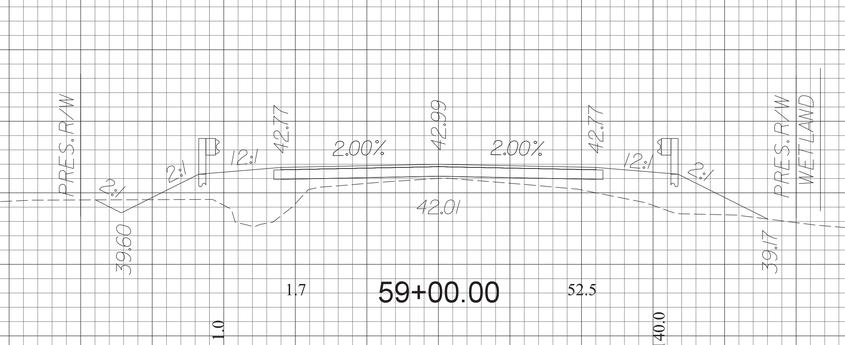

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STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
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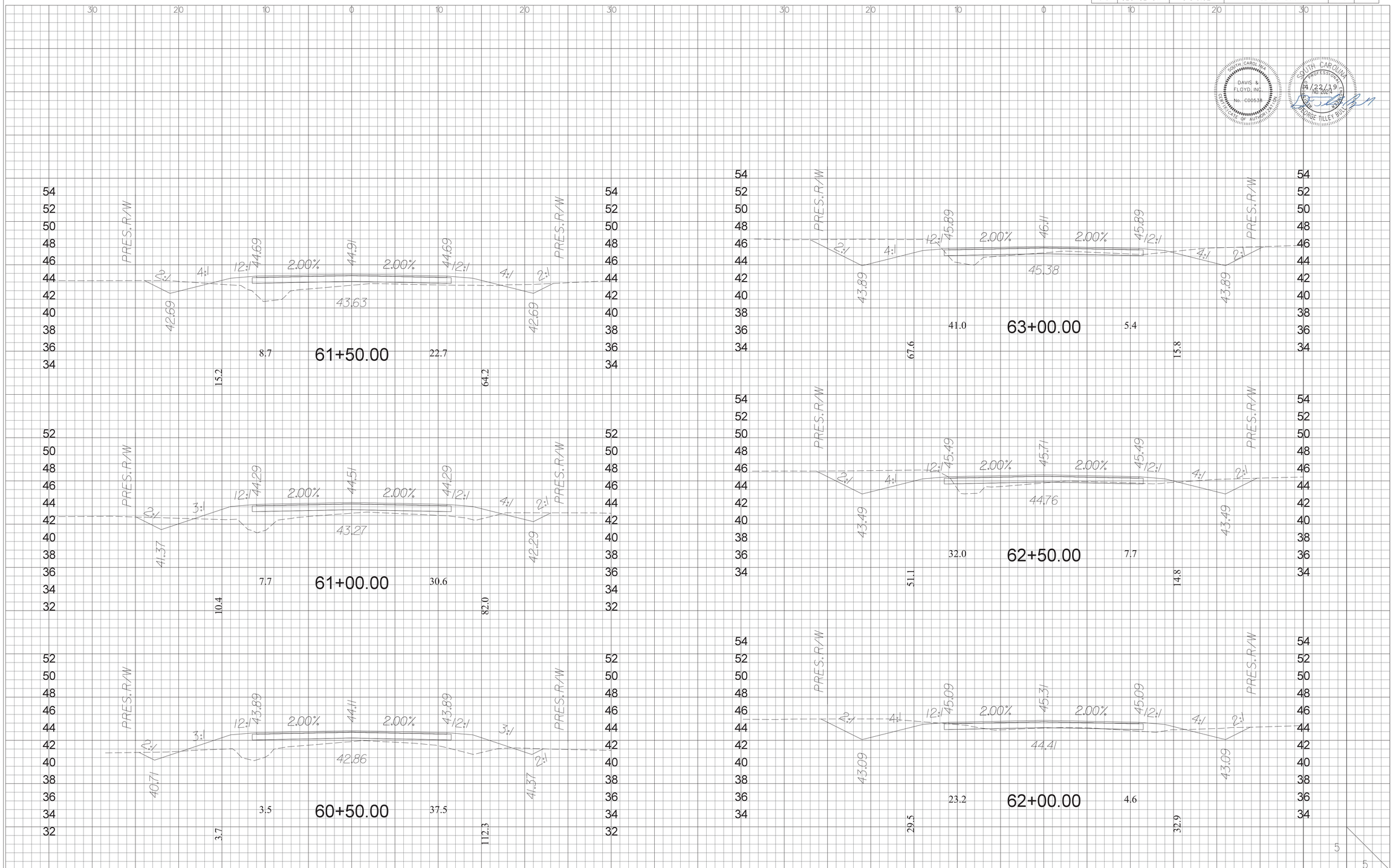
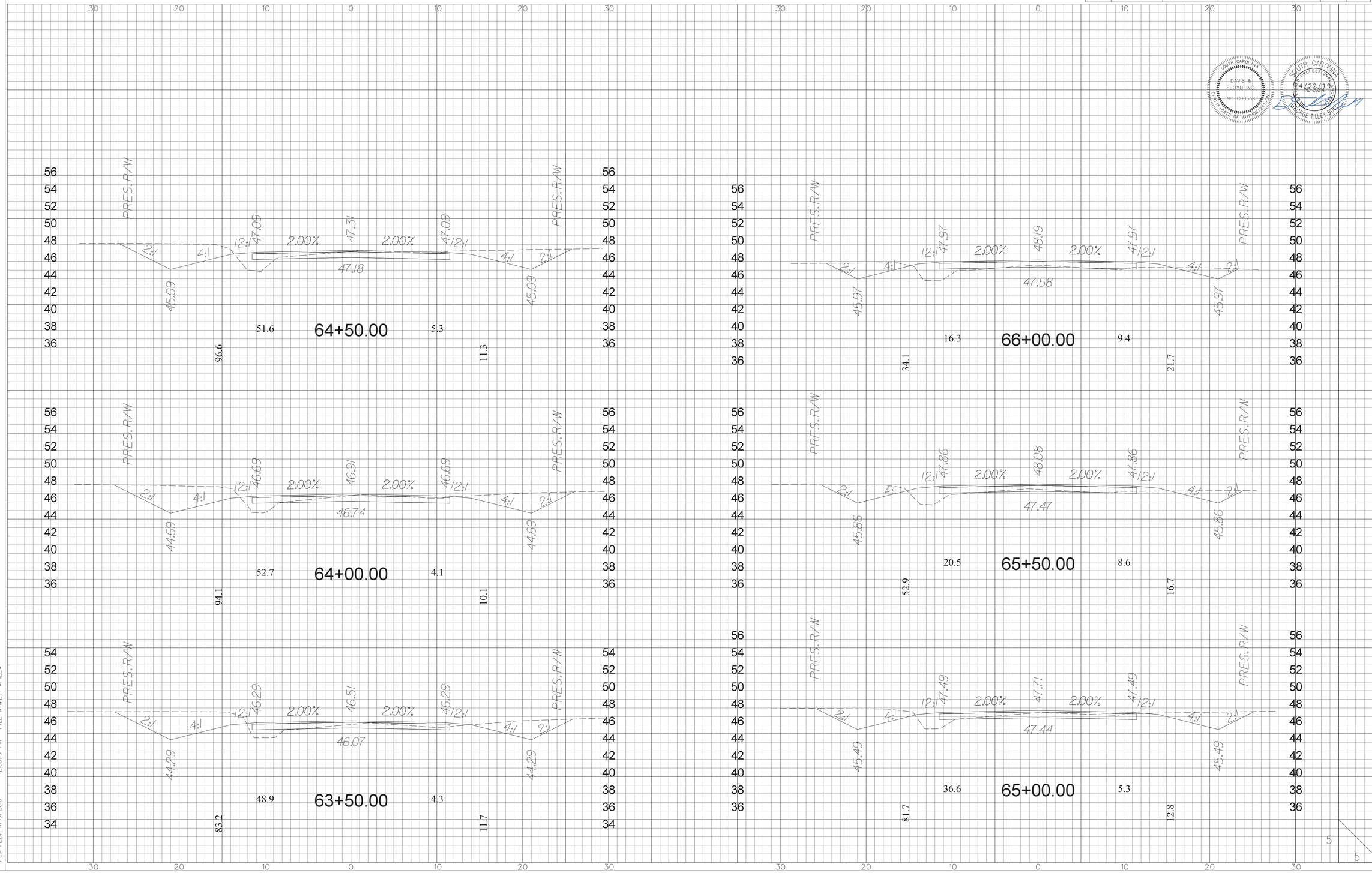


STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X16	



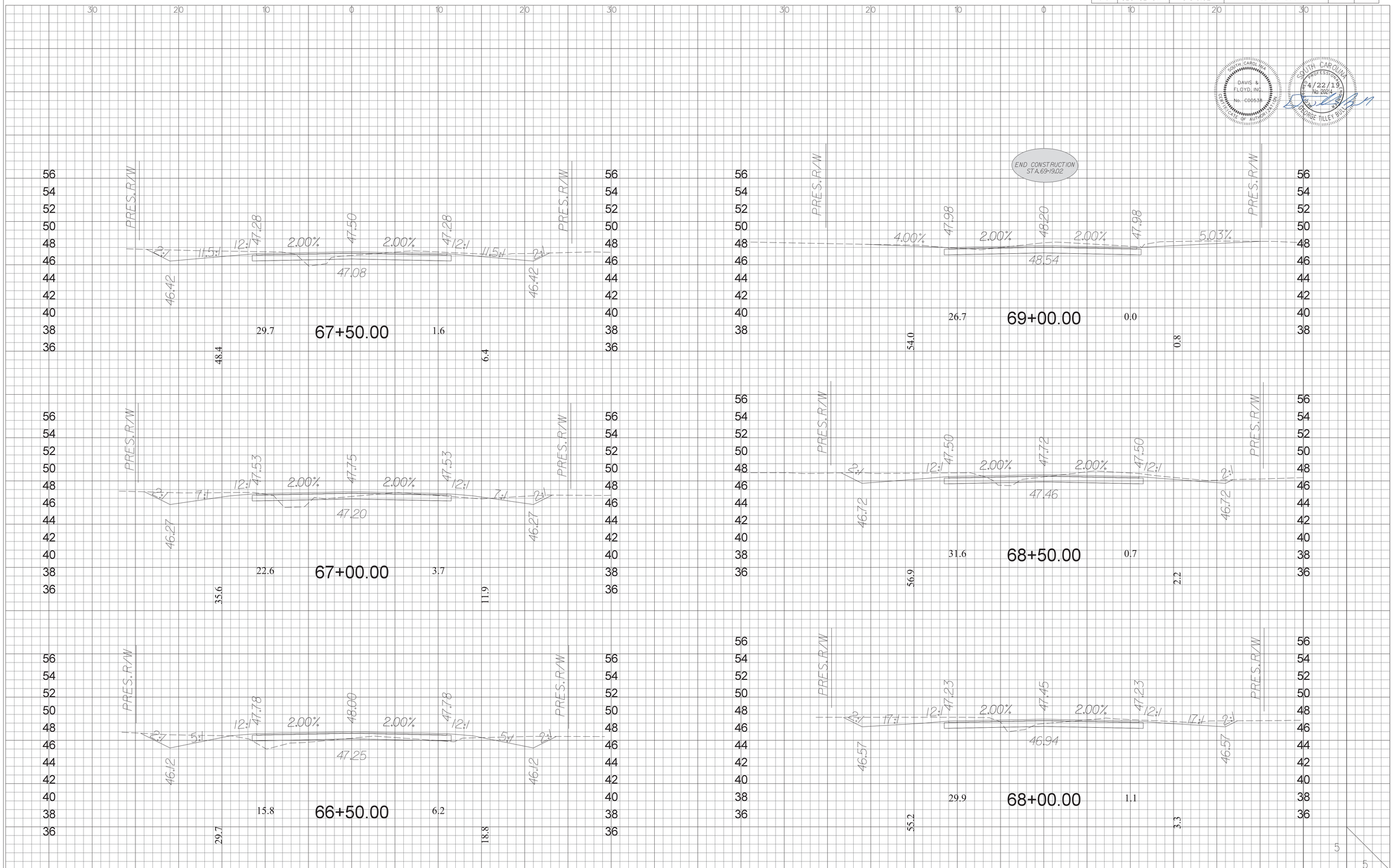
SOUTH CAROLINA DAVIS & FLOYD, INC. No: C00538 STATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO. 20011 GEORGE TILLEY BILLING JR. 4/22/19

PLOTTED: 11/19/2018 12:03:13 PM FILE NAME: $FILE$

5 / 5

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.02	WILLARD LOOP	X17	



SOUTH CAROLINA DAVIS & FLOYD, INC. No: C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER 4/22/19 No. 20214 GEORGE TILLEY BUTLER III

PLOTTED: 11/19/2018 12:03:16 PM FILE NAME: $FILE$

SHEET NO.
D01

PERMANENT SEEDING - COASTAL

SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET BAHIAGRASS	10 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS/Ac 30 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET ATLANTIC COASTAL PANICGRASS	10 LBS/Ac 15 LBS/Ac PLS												
BROWNTOP MILLET SWITCHGRASS (ALAMO) LITTLE BLUESTEM SERICEA LESPEDEZA	10 LBS/Ac 8 LBS/Ac PLS 4 LBS/Ac 20 LBS/Ac												
BROWTOP MILLET WEEPING LOVEGRASS	10 LBS/Ac 8 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET BAHIAGRASS	10 LBS/Ac 40 LBS/Ac												
RYE, GRAIN BAHIAGRASS CLOVER, CRIMSON (ANNUAL)	10 LBS/Ac 40 LBS/Ac 5 LBS/Ac												
BROWTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS/Ac 30 LBS/Ac 40 LBS/Ac												
BROWTOP MILLET BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS/Ac 10 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET BERMUDA, COMMON KOBE LESPEDEZA (ANNUAL)	10 LBS/Ac 12 LBS/Ac 10 LBS/Ac												
BROWNTOP MILLET BAHIAGRASS BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS/Ac 20 LBS/Ac 6 LBS/Ac 40 LBS/Ac												
BROWNTOP MILLET SWITCHGRASS LITTLE BLUESTEM INDIANGRASS	10 LBS/Ac 8 LBS/Ac PLS 3 LBS/Ac PLS 3 LBS/Ac PLS												

TEMPORARY SEEDING - COASTAL

SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET RYE, GRAIN RYEGRASS	40 LBS/Ac 56 LBS/Ac 50 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET OR JAPANESE MILLET	40 LBS/Ac												
RYE, GRAIN OR OATS	56 LBS/Ac 75												
RYEGRASS	50 LBS/Ac												

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BALL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SEEDING SCHEDULE

N.T.S.

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

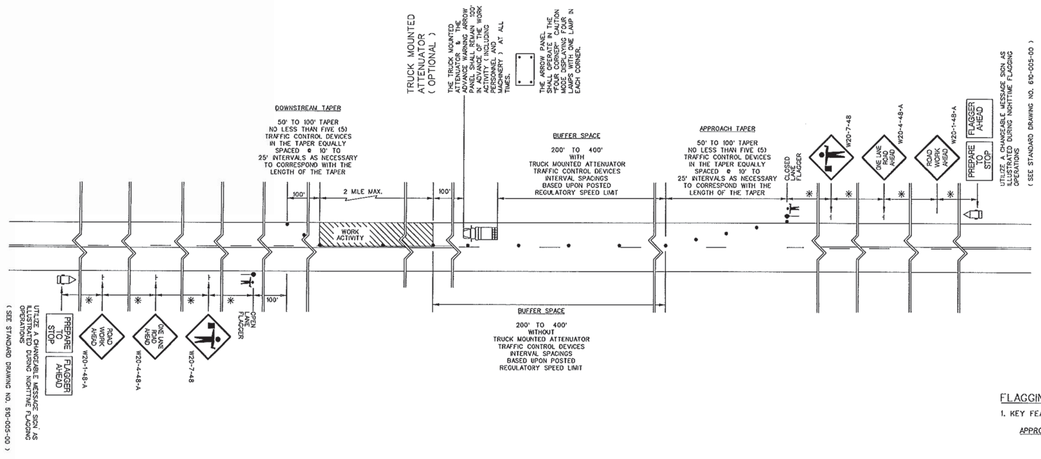


TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* < 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

FLAGGING OPERATIONS GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

APPROACH TAPER - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.

DOWNSTREAM TAPER - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.

FLAGGER STATION - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.

CLOSED LANE FLAGGER - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.

OPEN LANE FLAGGER - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.

BUFFER SPACE - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCROACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.

WORK ACTIVITY AREA - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.

LIMITS of the WORK ACTIVITY AREA - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.

APPROACH LANE - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

DEPARTURE LANE - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

MAINLINE APPROACH - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.

SIDE ROADS - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.

LIMITS of the INTERSECTION - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT, WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADII BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI/ ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" AND THIS ENCROACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCROACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCROACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCROACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREINBEFORE IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCROACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* ≤ 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

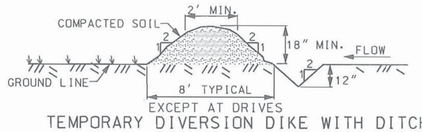
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 4/01/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM
3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

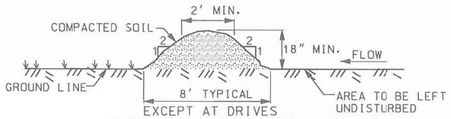
LANE CLOSURE

N.T.S.



TEMPORARY DIVERSION DIKE WITH DITCH

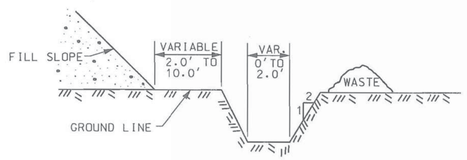
THE PAY ITEM SHALL BE TEMPORARY DIVERSION DIKE WITH DITCH_____L.F.



TEMPORARY DIVERSION DIKE

NOTES

1. THIS ITEM IS FOR DIVERTING CLEAN WATER AROUND A CONSTRUCTION AREA.
2. CLEAR AND GRUB ALL TREES, BRUSH, STUMPS AND OTHER OBJECTIONABLE MATERIAL.
3. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DIMENSIONS SHOWN.
4. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DIKE. (AS APPLICABLE).
5. PAYMENT FOR TEMPORARY DIVERSION DIKE INCLUDES ALL MATERIALS IN PLACE. REMOVAL AND DISPOSAL OF MATERIALS AND RESHAPING DIKE TO DRAIN. SEEDING TO BE PAID FOR SEPARATELY.
6. THE PAY ITEM SHALL BE: TEMPORARY DIVERSION DIKE_____L.F.

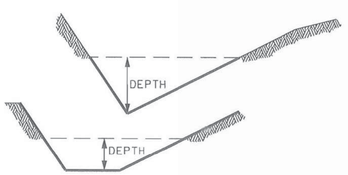


TEMPORARY SILT DITCH

NOTES

1. THIS ITEM IS TO MOVE SEDIMENT LADEN WATER FROM A CONSTRUCTION SITE TO A SEDIMENT CONTROL STRUCTURE.
2. SEED DITCH AND WASTE AREA WITH TEMPORARY SEEDING IMMEDIATELY AFTER CONSTRUCTION.
3. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DITCH (AS APPLICABLE).
4. THE PAY ITEM SHALL BE: SILT DITCHES_____C.Y.

ROLLED EROSION CONTROL PRODUCT



NOTES

1. THE DEPTH OF THE EROSION CONTROL PRODUCTS ARE TO BE DETERMINED BY DESIGN AND PLACED ON PLAN SHEETS.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. COST OF INSTALLATION AND MATERIALS SHALL BE INCLUDED IN THE PAY ITEM FOR ROLLED EROSION CONTROL PRODUCT.
4. PAY ITEMS:
TEMPORARY EROSION CONTROL BLANKET _____SY
PERMANENT TURF REINFORCEMENT MAT_____SY

THIS DRAWING IS NOT TO SCALE

SILT FENCE

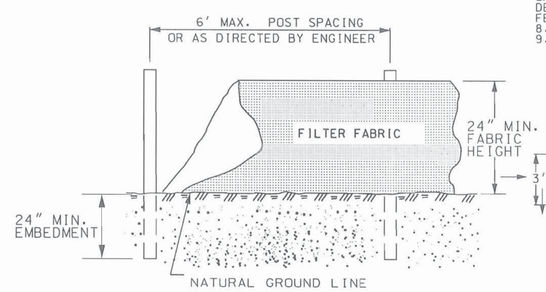
HEIGHT OF FILL (y) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (x) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (NPDES LINE) (z) IN FEET	CHECK LENGTH IN FEET**
<6	2:1 4:1 6:1	2	3	2
6-10	2:1	12*	13*	5
	4:1 6:1	3	4	3
>10	2:1	12*	13*	5
	4:1 6:1	4	5	4

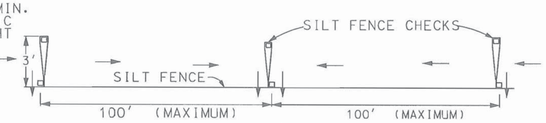
*THESE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND GUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.

**SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY TIE BACK INTO THE SLOPE.

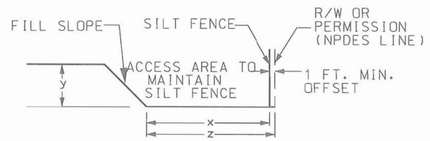
NOTES

1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FT. MAXIMUM AND AT LOW POINTS. FILTER FABRICS SHALL CONFORM TO SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).
2. USE POSTS CONFORMING TO SCDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER.
3. POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. POSTS SHALL ALSO HAVE A SOIL PLATE NEAR THE BOTTOM OF THE POST, EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON-SITE.
4. ATTACH FABRIC TO POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES.
5. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 1/3 THE HEIGHT OF THE FENCE. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF SILT BASIN.
6. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND. WHEN NEEDED, THE HEIGHT OF SILT FENCE FABRIC ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE, PAY ITEMS AND INSTALLATION METHODS.
7. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING AND BURIED DEPTHS WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5 OR 6 FEET TOTAL WIDTH.
8. FOLLOW SPECIFICATIONS WHEN USING ALTERNATE SILT FENCE (BSRF) DETAILS.
9. THE PAY ITEMS SHALL BE: SILT FENCE_____L.F.
SILT BASIN_____C.Y.

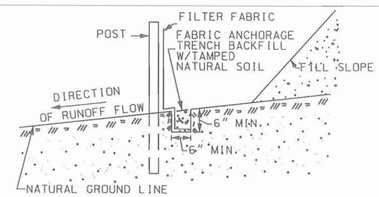




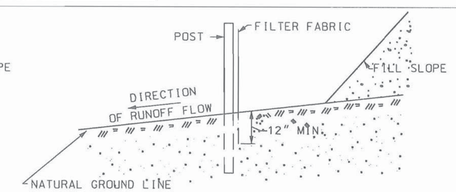
SILT FENCE CHECKS



STANDARD SILT FENCE

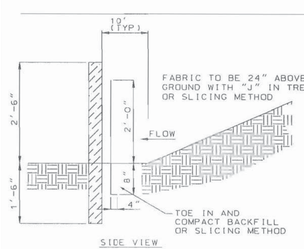


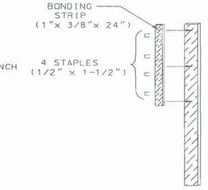
TRENCH METHOD

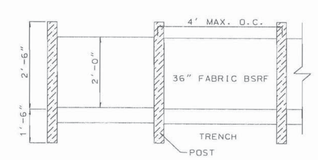


PNEUMATIC METHOD

12 INCHES OF THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR BY AND WITH A TRENCHER. BOTH METHODS SHOWN HERE.







MINIMUM OVERLAP OF 18" IS TO BE PROVIDED AT ALL SPLICE JOINTS

FRONT ELEVATION

ALTERNATE SILT FENCE - BELTED SILT RETENTION FENCE (BSRF)

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

SOUTH CAROLINA DAVIS & FLOYD, INC. No. C00538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 04/01/19 No. 20214 GEORGE TILLEY BULL

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

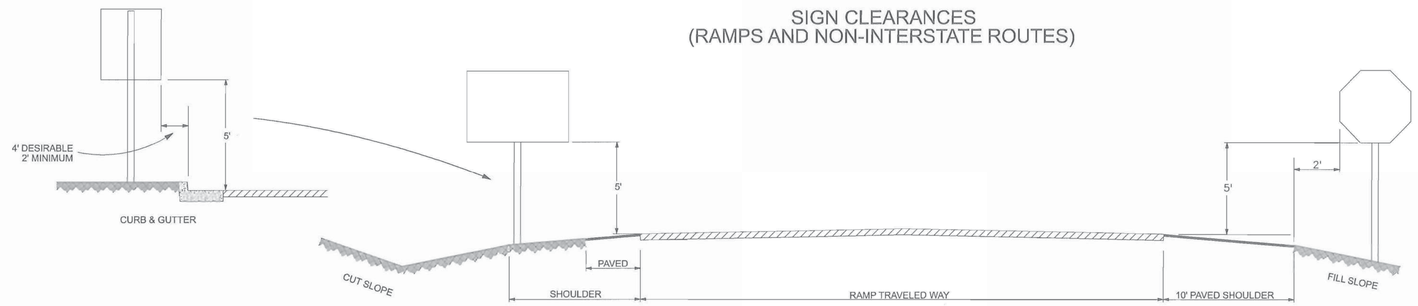
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

EROSION CONTROL DETAIL

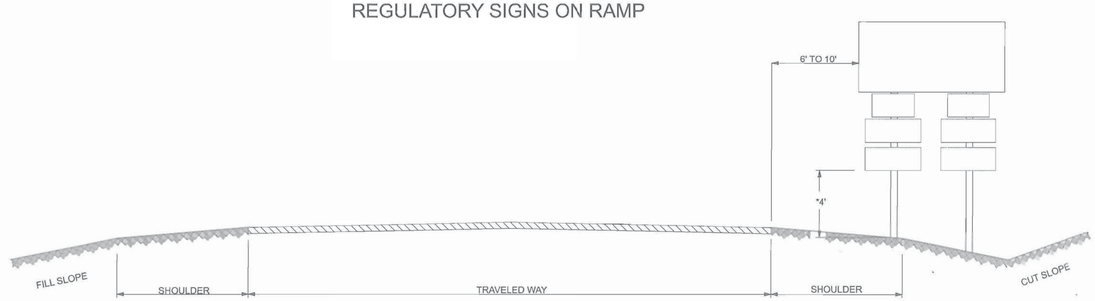
N.T.S.

TYPICAL INSTALLATION GUIDE (2)

SIGN CLEARANCES
(RAMPS AND NON-INTERSTATE ROUTES)

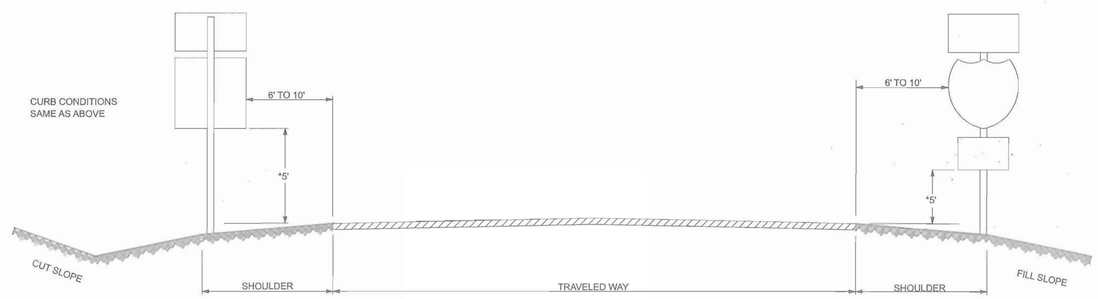


REGULATORY SIGNS ON RAMP



* (1) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

DESTINATION SIGNS ON RAMPS



* (1) USE 7' VERTICAL CLEARANCE WHERE PARKING OR PEDESTRIAN TRAFFIC IS PREVALENT.

(2) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

CROSS ROADS AND FRONTAGE ROADS

NOTES:

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SIGN INSTALLATION DETAIL

N.T.S.

FLAT SHEET SIGN MOUNTING DETAILS

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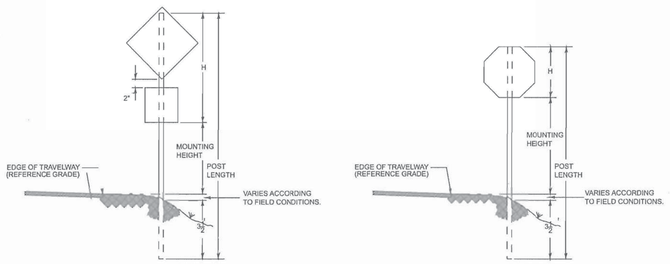


SIGNS MOUNTED ON FREEWAY RAMPS AND CONVENTIONAL ROADS

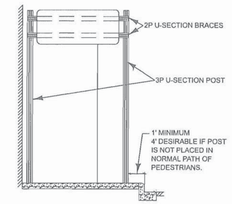
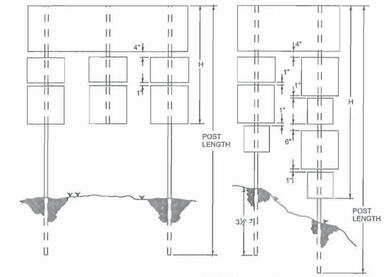


ILLUSTRATION OF SIGN ASSEMBLY SPANNING SIDEWALK

NOTE:

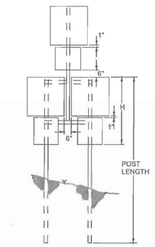
THE PURPOSE OF SPANNING THE SIDEWALK IS TO PROVIDE AN UNOBSTRUCTED WAY FOR PEDESTRIANS, AND AT THE SAME TIME LOCATE SIGNS WITHIN RIGHT-OF-WAY, WITH GOOD VISABILITY FOR TRAFFIC. EACH INSTALLATION MUST BE INDIVIDUALLY PLANNED AND CONSTRUCTED TO ACCOMPLISH THIS PURPOSE. THE PROJECT ENGINEER SHOULD APPROVE THE CONTRACTORS PLAN FOR SUPPORTING SIGNS SPANNING SIDEWALKS BEFORE THEY ARE ERECTED.



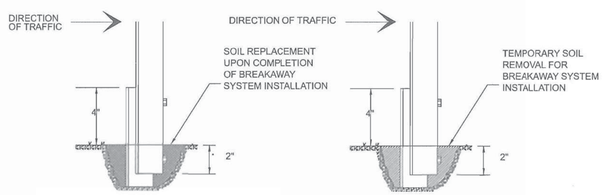
THIS TABLE GIVES APPROXIMATE POST LENGTH FOR NORMAL CONDITIONS. WHEN CUT OR FILL SECTIONS ARE SIGNIFICANT, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.

WHEN H IS	LESS THAN 2'	2' TO 2'-11"	3' TO 3'-11"	4' TO 4'-11"	5' AND LONGER
POST LENGTH (FT.) FOR 5' MOUNTING HGT.	12'	12'	13'	14'	H PLUS 10'

NOTE: ADD 2' TO POST LENGTH FOR 7' MOUNTING HEIGHT.



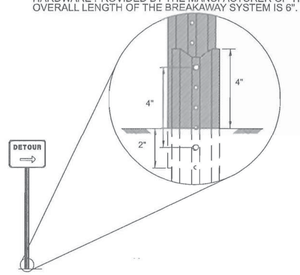
NOTE:
POST LENGTHS NOT SHOWN ON THIS SHEET ARE SHOWN ON THE PLAN SHEETS.



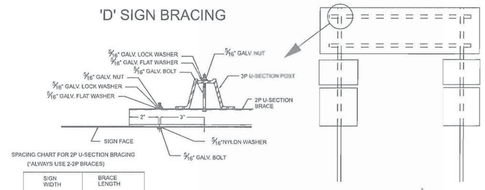
DRIVE THE GROUND SUPPORT (STUB) APPROXIMATELY 30" TO 36" INTO THE GROUND AS SPECIFIED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM SO THAT NO MORE THAN 4" OF THE GROUND SUPPORT (STUB) EXTENDS ABOVE THE GROUND. REMOVE ENOUGH SOIL FROM AROUND THE GROUND SUPPORT (STUB) TO PERMIT ACCESS TO THE HOLES FOR THE INSERTION AND TIGHTENING OF THE LOWER BOLT OF THE BREAKAWAY SYSTEM. UPON COMPLETING THE INSTALLATION OF THE BREAKAWAY SYSTEM, REPLACE THE SOIL AND TAMP.

LAP SPLICE FOR U-SECTION POSTS

BOLTS MUST BE 4" APART. THE GROUND SUPPORT (STUB) SHALL NOT EXTEND HIGHER THAN 4" ABOVE THE GROUND. ATTACH THE SIGN SUPPORT TO THE BACK OF THE GROUND SUPPORT (STUB) WITH THE APPROPRIATE HARDWARE PROVIDED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM. OVERALL LENGTH OF THE BREAKAWAY SYSTEM IS 6".



'D' SIGN BRACING



SPACING CHART FOR 2P U-SECTION BRACING
(*ALWAYS USE 2-2P BRACES)

SIGN WIDTH	BRACE LENGTH
72"	56"
78"	60"
84"	64"
90"	68"
96"	72"
102"	76"
108"	80"
114"	84"
120"	88"
126"	92"
138"	100"
144"	104"
150"	108"
156"	112"

1.) ALL "D" TYPE SIGNS ARE TO BE SUPPORTED BY 2 VERTICAL U-SECTION POSTS. ALL "D" TYPE SIGNS WHICH ARE 6' WIDE OR WIDER WILL BE HORIZONTALLY BRACED WITH 2, 2P U-SECTION POSTS. ADDITIONALLY, ANY ASSEMBLY OF SIGNS ATTACHED BETWEEN VERTICAL SUPPORTS WILL BE ATTACHED WITH A PRESCRIBED LENGTH OF U-SECTION POST.

2.) ALL 2P POSTS USED AS CENTER VERTICAL MEMBERS IN SIGN ASSEMBLIES SHALL HAVE HOLES ON 1" CENTERS FOR ENTIRE LENGTH.

SIZE & LENGTH OF U-SECTION POSTS FOR SINGLE SIGNS

POST QUANTITY, SIZE & LENGTH FOR INSTALLATIONS HAVING MORE THAN ONE SIGN ARE SHOWN ON THE PLANS.

SIGN NO.	NO. OF POSTS	POST SIZES 5' MTG. HT. LBS./FT.	5' MTG. HT. LGTH.	7' MTG. HT. LBS./FT.	7' MTG. HT. LGTH.
R1-1-24	1	3P	12	3P	14
R1-1-30	1	3P	12	3P	14
R1-1-48	2	3P	14	3P	16
R1-2-36	1	3P	12	3P	14
R1-2-48	2	3P	13	3P	15
R2-1-24	1	3P	12	3P	14
R2-5c-24	1	3P	12	3P	14
R2-5c-48	2	3P	15	3P	17
R2-6-24	1	3P	12	3P	14
R4-1-24	1	3P	12	3P	14
R4-2-24	1	3P	12	3P	14
R4-3-24	1	3P	12	3P	14
R4-3-36	2	3P	14	3P	16
R4-4-42	2	3P	14	3P	16
R5-1-30	1	3P	12	3P	14
R5-1-36	2	3P	13	3P	15
R5-1a-36	2	3P	12	3P	14
R5-10a-30	1	3P	13		
R8-1-36	1	3P	10	3P	12
R8-8-36	2	3P	12	3P	14
R8.8-42	2	3P	12	3P	14

SIGN NO.	NO. OF POSTS	POST SIZES 5' MTG. HT. LBS./FT.	5' MTG. HT. LGTH.	7' MTG. HT. LBS./FT.	7' MTG. HT. LGTH.
R1-2-24	1	3P	12	3P	14
R1-5-36	2	3P	14	3P	16
R1-7-30	1	3P	12	3P	14
R1-7-36	1	3P	13	3P	15
R2-1-24	1	3P	12	3P	14
R2-2-24	1	3P	12	3P	14
R2-5-24	1	3P	13	3P	15
R3-1-36	1	3P	14	3P	16
R3-2-36	1	3P	14	3P	16
R5-1-36	1	3P	14	3P	16
R5-1-36	1	3P	14	3P	16
R5-2-36	1	3P	14	3P	16
R6-3-36	1	3P	13	3P	15
R11-1-24	1	3P	12	3P	14
R11-1-30	1	3P	13	3P	15
R11-1-36	2	3P	14	3P	16
R11-1-48	2	3P	14	3P	16
R11-5-36	2	3P	14	3P	16
R11-6-48	2	3P	14	3P	16
R11-7-30	1	3P	12	3P	14
R18-1-30	1	3P	13	3P	15
W1-1-30	1	3P	13	3P	15
W1-1-36	1	3P	14	3P	14
W1-2-30	1	3P	13	3P	15
W1-2-36	1	3P	14	3P	16
W1-3-30	1	3P	13	3P	15
W1-3-36	1	3P	14	3P	16
W1-4-30	1	3P	13	3P	15
W1-4-36	1	3P	14	3P	16
W1-5L-30	1	3P	13	3P	15
W1-6-48	2	3P	12	3P	14
W1-7-48	2	3P	12	3P	14

SIGN NO.	NO. OF POSTS	POST SIZES 5' MTG. HT. LBS./FT.	5' MTG. HT. LGTH.	7' MTG. HT. LBS./FT.	7' MTG. HT. LGTH.
W2-1-24	1	3P	12	3P	14
W2-5-36	1	3P	13	3P	15
W3-1-36	1	3P	14	3P	16
W3-2-36	1	3P	14	3P	16
W5-1-36	1	3P	14	3P	16
W9-1-36	1	3P	14	3P	16
W9-2-36	1	3P	14	3P	16
W8-3-36	1	3P	13	3P	15
W14-1-24	1	3P	12	3P	14
W14-1-30	1	3P	13	3P	15
W6-4-48	2	3P	14	3P	16
W10-1-36	1	3P	13	3P	15

SIGN NO.	NO. OF POSTS	POST SIZES 5' MTG. HT. LBS./FT.	5' MTG. HT. LGTH.	7' MTG. HT. LBS./FT.	7' MTG. HT. LGTH.
THE FOLLOWING TO BE MOUNTED AT 4' HT.					
D10-1-12-XX	1	2P	10		
D10-2-12-XX	1	2P	11		
D10-3-12-XX	1	2P	12		
THE FOLLOWING TO BE MOUNTED AT 6' HT.					
R1-2-60	2	3P			
R4-3-48	2	3P			
R6-4-48	2	3P			
R11-1-48	2	3P			
W13-2-48	2	3P			

NOTE:

POST LENGTHS SHOWN IN THIS CHART ARE GENERAL AND SHOULD BE USED FOR BID PURPOSES ONLY. CONTRACTOR IS REQUIRED TO VERIFY FIELD CONDITIONS TO DETERMINE EXACT LENGTHS OF POSTS NEEDED.

DELINEATOR POSTS SHALL BE 3P U-SECTION POST 7½' LONG.

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

SIGN MOUNTING DETAIL

N.T.S.

NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS

2. ALTERNATE PIPE END TREATMENTS ARE ALSO AVAILABLE. SEE STANDARD DRAWING SECTION 719-600-00.

3. PAY ITEMS:
8041xxx RIP-RAP (CLASS _) - _____ TON
8048xxx GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP(CLASS 2)TYPE _ - ____ SY

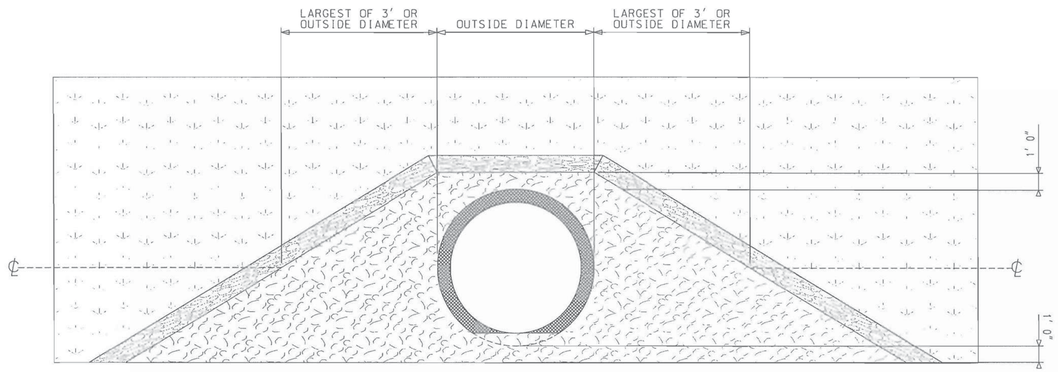
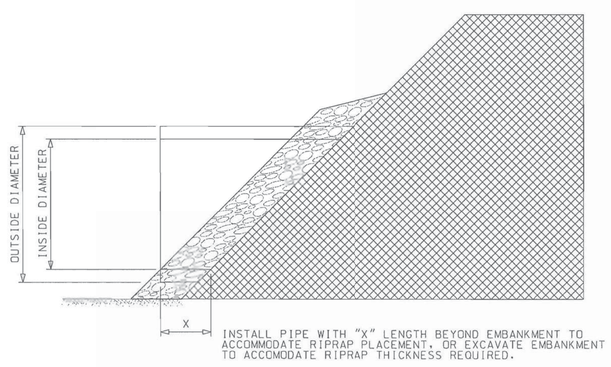
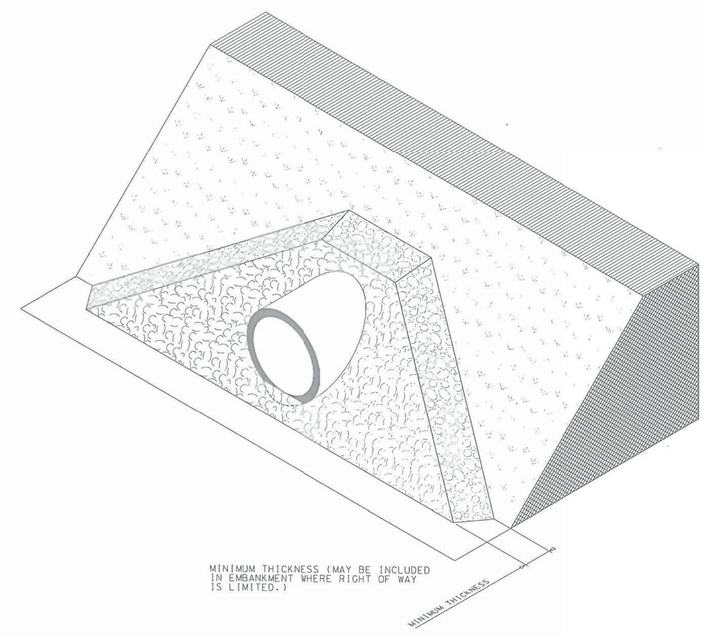


CHART 804-305A RIPRAP PLACEMENT			
MINIMUM CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"





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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

RIPRAP PIPE DETAIL

N.T.S.

NOTES:
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2. SEE STANDARD DRAWINGS SECTION 719-600-00 FOR ADDITIONAL PIPE END TREATMENT OPTIONS.

3. THE PAY ITEMS SHALL BE:
RIPRAP CLASS _____ _____TON
GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS I) TYPE _____ S.Y.

CHART 804-310A
RIPRAP PLACEMENT

MINIMUM CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"

NOTES:

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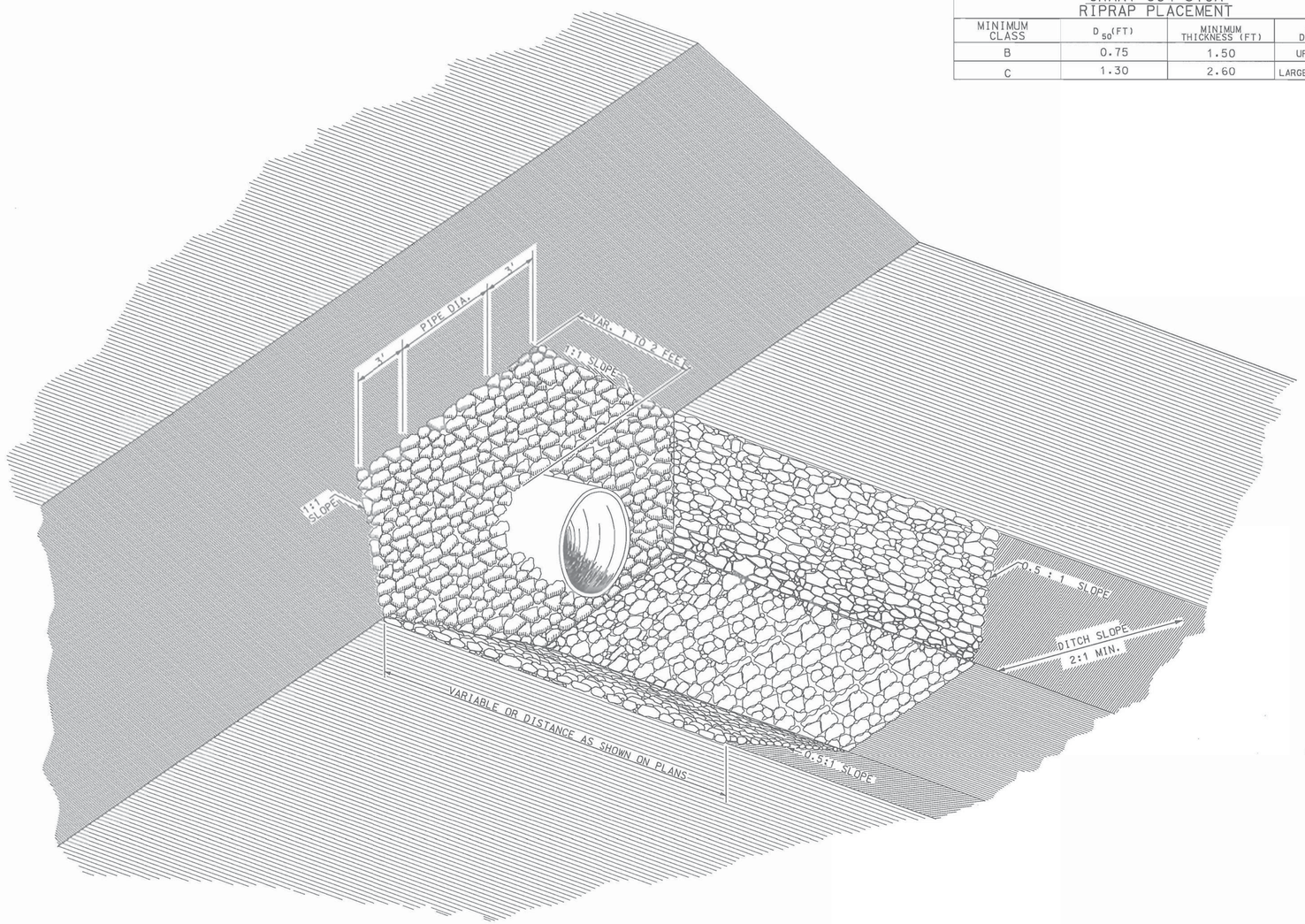

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RIPRAP DITCH DETAIL

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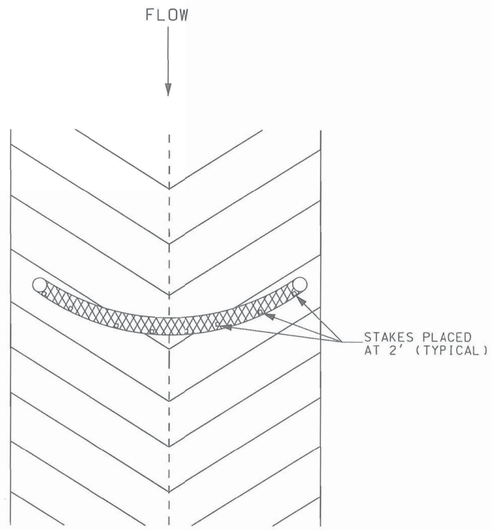
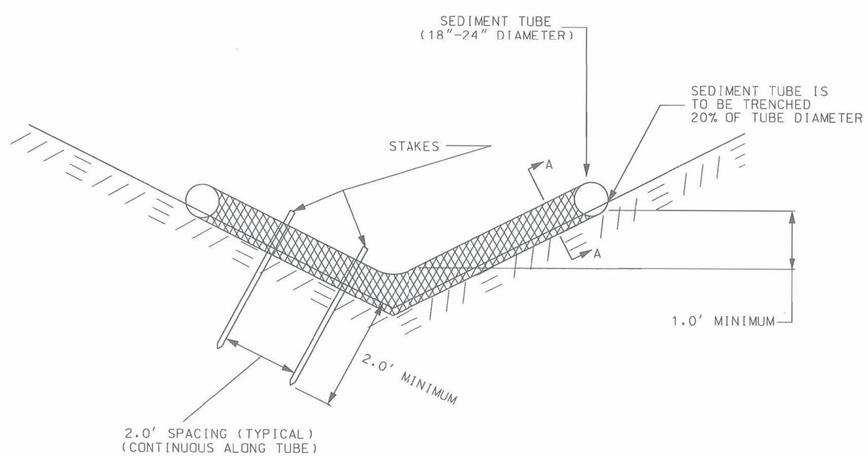


TOP VIEW
OF DITCH



END VIEW
OF DITCH

NOTES:

1. SEDIMENT TUBE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 815 OF THE SCDOT STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (LATEST EDITION), AND MUST BE LISTED ON SCDOT QUALIFIED PRODUCT LIST NUMBER 57. SEDIMENT TUBES MUST MEET THE CRITERIA OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS BEFORE BEING LISTED ON QPL, AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.

2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE SEDIMENT TUBES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18-24 INCHES IN DIAMETER AND ARE TO BE TRENCHED TO A DEPTH OF 20% OF TUBE DIAMETER. LAY THE SEDIMENT TUBE FLAT IN THE U-SHAPED TRENCH AND COMPACT THE UPSTREAM SEDIMENT TUBER SOIL INTERFACE. PLACE AND ANCHOR THE SEDIMENT TUBE ENDS SO THEY ARE POSITIONED UPSTREAM OF THE SEDIMENT TUBE CENTER POINT. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE TRENCHING.

3. SEDIMENT TUBE SHALL BE INSTALLED IMMEDIATELY AFTER GRADING AND CONSTRUCTION. SEDIMENT TUBE SHALL BE MAINTAINED DURING SUBGRADE AND BASE PREPERATION UNTIL BASE COURSE IS COMPLETE. SEDIMENT TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION.

4. SEDIMENT TUBES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW AND EXTEND UP SIDE SLOPES A MINIMUM OF 1 FOOT ABOVE DESIGN FLOW DEPTH. SPACE TUBES ACCORDING TO THE FOLLOWING TABLE:

SLOPE	MAXIMUM SEDIMENT TUBE SPACING
LESS THAN 2%	150 FEET
2%	100 FEET
3%	75 FEET
4%	50 FEET
5%	40 FEET
6%	30 FEET
GREATER THAN 6%	25 FEET

5. STAKE SEDIMENT TUBES FOR DITCH CHECKS USING STAKES WITH A MINIMUM MEASURED DIMENSION OF ¾" X ¾" AND A MAXIMUM MEASURED DIMENSION OF 2" X 2", OR USING STEEL POSTS(1.25lbs/linear foot)A MINIMUM OF 4' IN LENGTH. USE STEEL POSTS WITHOUT A KICK PLATE AND PAINTING IS NOT REQUIRED. SPACE POSTS OR STAKES ON 2' CENTERS AND DRIVE THEM INTO THE GROUND TO A DEPTH OF 2' OR TO THE MAXIMUM EXTENT PRACTIBLE. INSTALL THE STAKES ON THE DOWNSTREAM THIRD OF THE SEDIMENT TUBE. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MOR THEN 18 POUNDS PER FOOT DO NOT REQUIRE STAKING.

6. SELECT PROPER LENGTH OF TUBE TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF DRAINAGE AREA. ONE CONTINUOUS LENGTH IS PREFERRED COMPARED TO TWO OVERLAPPING TUBES. IF NECESSARY, SEDIMENT TUBES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.

7. INSTALL SEDIMENT TUBES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP SEDIMENT TUBES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.

8. INSPECT SEDIMENT TUBES AFTER INSTALLATION FOR GAPS UNDER THE SEDIMENT TUBES AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF SEDIMENT TUBES. INSPECT SEDIMENT TUBES EVERY 7 DAYS. REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR SEDIMENT TUBES. REMOVE ALL SEDIMENT DEPOSITS THAT IMPAIR THE FILTRATION CAPABILITY OF SEDIMENT TUBES WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.

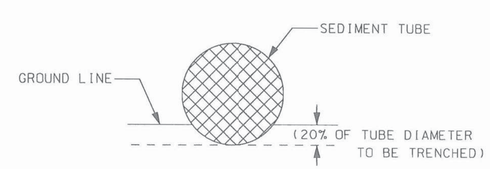
9. REMOVE AND/OR REPLACE INSTALLED SEDIMENT TUBES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE SEDIMENT TUBES WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANFACTURER'S REPRESENTATIVE. GATHER SEDIMENT TUBES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS, INERT MATERIAL.

10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF SEDIMENT TUBES.

11. CLEAN OUT OF TUBES WILL BE PAID FOR AS SILT BASIN IN C.Y.

12. PAYMENT SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, MAINTENANCE, AND INCEDENTALS NECESSARY TO COMPLETE WORK.

13. PAY ITEM SHALL BE:
SEDIMENT TUBE ..... LF



SECTION A-A

SOUTH CAROLINA
DAVIS & FLOYD, INC.
No. C00538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
4/01/19
No. 20214
GEORGE TILLEY BALL

DAVIS & FLOYD

SINCE 1954

WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

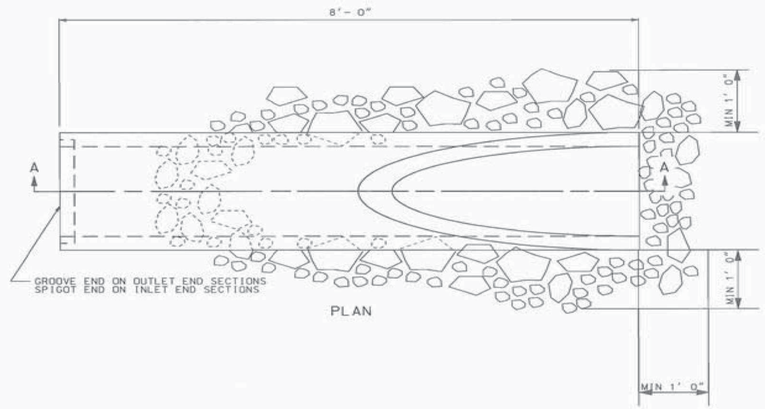
SEDIMENT TUBE DETAIL

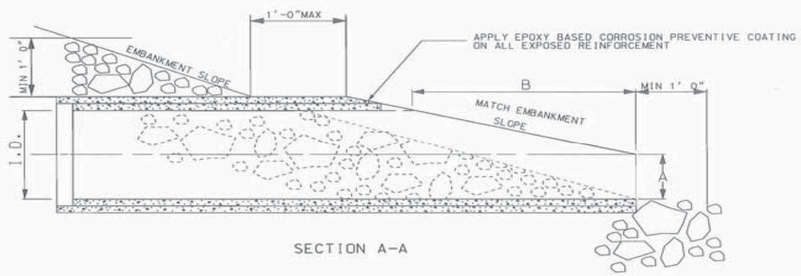
N.T.S.

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.





NOTES:

1. BEVELED END SECTIONS WILL BE MANUFACTURED IN ACCORDANCE WITH SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATIONS SC-M-714. THESE SPECIAL PIPE SECTIONS WILL BE MADE DURING THE MANUFACTURING OF OTHER STATE APPROVED REINFORCED CONCRETE PIPE.

2. THE PIPE BEVEL MAY BE SAWED IN THE FIELD IN LIEU OF BEING MANUFACTURED. IN FIELD SAWING, THE PIPE OPENING MAY COME TO A POINT AT THE PIPE CREST RATHER THAN A RADIUS IF APPROVED BY THE PIPE MANUFACTURER. ALTERNATE PIPE FOR SIDELINES MUST HAVE EACH END BEVELED TO MATCH THE ADJACENT SLOPES.

3. PLACE RIPRAP AS DIRECTED BY THE RCE.

4. PAYMENT FOR BEVELED END SECTIONS WILL BE AS DIRECTED IN SC-M-714.

5. THE PAY ITEM SHALL BE:

7199100 BEVELING OF PIPE ENDS_____EA.
8041XXX RIPRAP(CLASS_)_____TON
8048XXX GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP(CLASS 2) TYPE____S.Y.

CHART 719-610B
RIPRAP PLACEMENT

CLASS	D_{50}(FT)	MINIMUM THICKNESS (FT)
B	0.75	1.50
C	1.30	2.60

TABLE 719-610A

		EMBANKMENT SLOPE				
		6:1	5:1	4:1	3:1	2:1
		6	5	4	3	2
I.D.(IN)	A(IN)	B (BEVELED LENGTH) (IN)				
15	6	54	45	36	27	18
18	9	54	45	36	27	18
24	10	NA	70	56	42	28
30	12	NA	NA	72	54	36
36	15	NA	NA	NA	63	42
42	20	NA	NA	NA	66	44
48	24	NA	NA	NA	72	48
54	24	NA	NA	NA	NA	60
60	24	NA	NA	NA	NA	72

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

END TREATMENT
(RCP BEVELED END)

N.T.S.

NOTES:

1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.

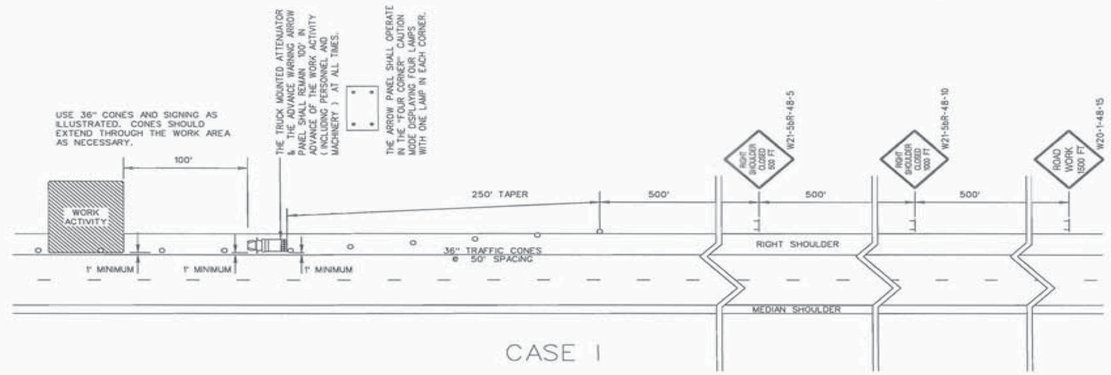
2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

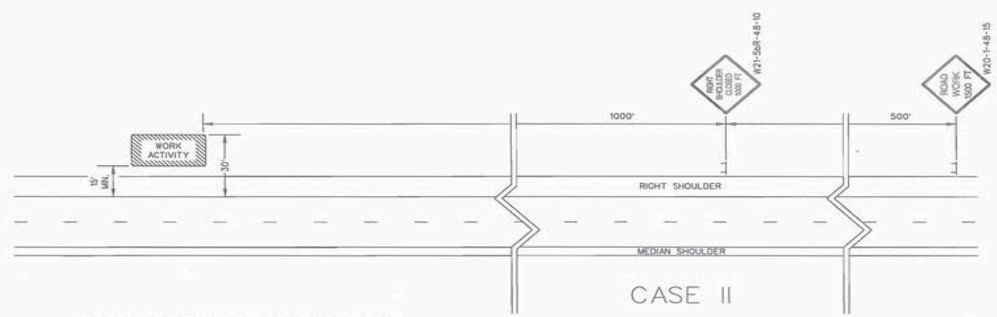
GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS: ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
9. THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.

    CASE I: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.

    CASE II: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
12. CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
13. PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
14. FOR A CASE I SCENARO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
15. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE I SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE I CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE I CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE II CLOSURE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.





PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVM) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

O 36" TRAFFIC CONES

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CHARLESTON, SC 29418
(843) 554-8602

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM
SHOULDER CLOSURE

N.T.S.

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
Encroachment Permit

Permit No : 231890
Permit Decision Date : 2/10/2020
Expiration Date : 2/10/2021

Type Permit : ROAD CONNECTION (NON DRIVEWAY)

Location:

District	Work County	Type	Route	Aux	Begin MP	End MP
5	Georgetown, SC	L-	741	None	0.018	0.018

Contact Information

Applicant: GeorgetownCountyDepartmentofPublicServices Phone:
Contact: Joseph Garrison
Address: 108 Screven Street,
City: Georgetown State: SC Zip: 29440

Comments

Willard Loop (Local) at Pleasant Hill Drive (SC 513), approximately 0.46 miles west of the intersection of Dennis Dr (Local) and Pleasant Hill Dr (SC 513).

Special Provisions:

0004 - SCDOT SHALL BE NOTIFIED WHEN WORK DEFINED IN THE PERMIT STARTS AS WELL AS WHEN THE WORK IS COMPLETED. REFERENCE SHALL BE MADE BY PERMIT NUMBER.

0005 - APPLICANT SHALL PROVIDE TO THE DEPARTMENT THE OPPORTUNITY OF ATTENDING ANY PRE-CONSTRUCTION MEETING PRIOR TO THE BEGINNING OF WORK.

0123 - ALL WORK PERFORMED IN CONNECTION WITH THIS PERMIT SHALL CONFORM TO THE SCDOT "A POLICY FOR ACCOMODATING UTILITIES ON HIGHWAY RIGHT-OF-WAY" MOST CURRENT EDITION.

0301 - THE DITCHES AND/OR SHOULDERS DISTURBED DURING THE INSTALLATION SHALL BE RE-ESTABLISHED TO PROPER GRADE, ORIGINAL CROSS SECTION, STABILIZED, AND ALL DRAIN PIPES CLEARED.

0304 - PAVEMENT MARKINGS ALTERED DURING THIS INSTALLATION SHALL BE RESTORED BY THE APPLICANT.

0306 - TRAFFIC CONTROL, LIGHTS, SIGNS AND FLAG-MEN WILL BE FURNISHED BY APPLICANT AND WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

0309 - THE PERMITTEE SHALL MAKE THE INSTALLATION UNDER THE SUPERVISION OF THE DEPARTMENT AND SHALL NOT BLOCK TRAFFIC AT ANY TIME.

0310 - FIELD CHANGES, IF NECESSARY, MUST BE APPROVED IN WRITING BEFORE ACTUAL CONSTRUCTION OF PROPOSED CHANGES.

0312 - THE PERMITTEE SHALL HOLD THE DEPARTMENT HARMLESS FOR DAMAGES TO BOTH UPSTREAM AND DOWNSTREAM PROPERTIES.

0316 - ALL NON-PERMITTED OBJECTS ON THE RIGHT-OF-WAY, WHICH MUST BE REMOVED, SHALL NOT BE REPLACED ON THE RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION OF THE DEPARTMENT.

0318 - THE APPLICANT SHALL BE RESPONSIBLE FOR IMMEDIATE REMOVAL OF SUCH TRAFFIC HAZARDS AS MUD, DEBRIS, LOOSE STONE, AND TRASH AS MAY BE WASHED OR SPILLED ON THE TRAVELED ROADWAY AS A RESULT OF THE PROPOSED WORK.

C. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. *Navigation.* (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. *Aquatic Life Movements.* No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. *Spawning Areas.* Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (*e.g.*, through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. *Migratory Bird Breeding Areas.* Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. *Shellfish Beds.* No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material.* No activity may use unsuitable material (*e.g.*, trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. *Water Supply Intakes.* No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects From Impoundments.* If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows.* To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (*e.g.*, stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains.* The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment.* Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls.* Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Temporary Fills.* Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance.* Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project.* The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers.* (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ‘‘study river’’ for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ‘‘study river’’ for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (*e.g.*, National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: *http://www.rivers.gov/*.

17. *Tribal Rights.* No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. *Endangered Species.* (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which ‘‘may affect’’ a listed species or critical habitat, unless ESA section 7consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If preconstruction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district

engineer will determine whether the proposed activity ‘‘may affect’’ or will have ‘‘no effect’’ to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, he applicant shall not begin work until the Corps has provided notification that the proposed activity will have ‘‘no effect’’ on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the ‘‘take’’ of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (*e.g.,* an ESA Section 10 Permit, a Biological Opinion with ‘‘incidental take’ provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where ‘‘take’’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word ‘‘harm’’ in the definition of ‘‘take’’ means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their worldwide Web pages at *http://www.fws.gov/* or *http://www.fws.gov/ipac* and *http://www.nmfs.noaa.gov/pr/species/esa/* respectively.

19. *Migratory Birds and Bald and Golden Eagles.* The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether ‘‘incidental take’’ permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. *Historic Properties.* (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the preconstruction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106consultation is completed. If the non- Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the

NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. *Discovery of Previously Unknown Remains and Artifacts.* If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. *Mitigation.* The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (*i.e.*, on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal. (c) Compensatory

mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require preconstruction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require preconstruction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (*e.g.,* conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (*e.g.,* riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332. (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33

CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (6) Compensatory mitigation requirements (*e.g.*, resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33CFR 332.4(c)(1)(ii)). (g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2- acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. *Safety of Impoundment Structures.* To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality*. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. *Coastal Zone Management.* In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. *Regional and Case-By-Case Conditions.* The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. *Use of Multiple Nationwide Permits.* The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

29. *Transfer of Nationwide Permit Verifications.* If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____
(Transferee)

_____
(Date)

30. *Compliance Certification.* Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the

permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. *Activities Affecting Structures or Works Built by the United States.* If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a‘ ‘USACE project’’), the prospective permittee must submit a preconstruction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. *Pre-Construction Notification.* (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the, additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or (2) 45 calendar days have passed from the district engineer’s receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is ‘‘no effect’’ on listed species or ‘‘no potential to cause effects’’ on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee’s

right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2). (b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:
(1) Name, address and telephone numbers of the prospective permittee;
(2) Location of the proposed activity;
(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposedactivity;
(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (*e.g.,* a conceptual plan), but do not need to be detailed engineering plans); (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate; (6) If the proposed activity will result in the loss of greater than 1⁄10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan. (7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act; (8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for

listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act; (9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ‘‘study river’’ for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the ‘‘study river’’ (see general condition 16); and (10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project. (c) *Form of Pre-Construction Notification:* The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals. (d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) All NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of streambed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (*e.g.*, via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the preconstruction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity’s compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies’ concerns were

considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of preconstruction notifications to expedite agency coordination.

2017 APPROVED
NATIONWIDE PERMIT REGIONAL GENERAL CONDITIONS
FOR SOUTH CAROLINA (REVISED)

The following Regional Conditions have been approved by the Charleston District for the Nationwide Permits (NWP) published in the January 6, 2017, Federal Register as authorized under General Condition #27. Regional conditions are authorized to modify NWPs by adding conditions on a generic basis applicable to certain activities or specific geographic areas. Certain terminologies used in the following conditions are identified in *italics* and are defined in the above referenced Federal Register under Definitions.

Note: The acronym "*PCN*" used throughout the Regional Conditions refers to *Pre-Construction Notification*.

For All Nationwide Permits:

1. The applicant must implement *best management practices* during and after all construction to minimize erosion and migration of sediments off site. These practices may include use of devices capable of preventing erosion and migration of sediments in waters of the United States., including wetlands. These devices must be maintained in a functioning capacity until the area is permanently stabilized. All disturbed land surfaces must be stabilized upon project completion. Stabilization refers to the minimization of erosion and migration of sediments off site.

2. All wetland and stream crossings must be stabilized immediately following completion of construction/installation and must be aligned and designed to minimize the *loss of waters of the United States.*

3. Necessary measures must be taken to prevent oil, tar, trash, debris and other pollutants from entering waters of the United States, including wetlands that are adjacent to the authorized activity.

4. Any excess excavated materials not utilized as authorized back fill must be placed and contained on uplands and permanently stabilized to prevent erosion into waters of the United States, including wetlands.

5. Placement and/or stockpiling (double handling) of excavated material in waters of the United States, including wetlands, is prohibited unless specifically authorized in the nationwide permit verification. Should double handling be authorized, the material must be placed in a manner that does not impede circulation of water and will not be dispersed by currents or other erosive forces.

6. Once project construction is initiated, it must be carried to completion in an expeditious manner in order to minimize the period of disturbance to aquatic resources and the surrounding environment.

7. If you discover any previously unknown historic, cultural or archeological remains and

artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent *practicable*, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. Archeological remains consist of any materials made or altered by man, which remain from past historic or prehistoric times (i.e., older than 50 years). Examples include old pottery fragments, metal, wood, arrowheads, stone implements or tools, human burials, historic docks, *structure*s, or non-recent (i.e., older than 100 years) vessel ruins.

8. Use of nationwide permits does not obviate requirements to obtain all other applicable Federal, State, county, and local government authorizations.

9. No NWP is authorized in areas known or suspected to have sediment contamination, with the exception of NWP 38, and NWP 53 when used in combination with NWP 38.

10. In accordance with General Condition #31, "Activities Affecting *Structure*s or Works Built by the United States," a *PCN* must be submitted if a NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE" project"). See General Condition #32 for *PCN* content and timing requirements and particularly paragraph (b)(10) for an activity that requires permission from the Corps pursuant to 33 U.S.C. 408. An activity in South Carolina that requires section 408 permission is not authorized by a NWP until the Charleston District issues the section 408 permission to alter, occupy, or use the USACE project, and the District Engineer issues a written NWP verification.

11. For all proposed activities that would be located in or adjacent to an authorized Federal Navigation project, as listed in Regional Condition #18, the *PCN* must include project drawings that have the following information: a) location of the edges of the Federal channel; b) setback distances from the edge of the channel; c) the distance from watermost edge of the proposed *structure* or fill to the nearest edge of the channel and the Mean High and Mean Low water lines; and d) coordinates of both ends of the watermost edge of the proposed *structure* or fill (NAD 83 State Plane Coordinates in decimal degrees). This notification requirement is in addition to the *PCN* requirements listed in General Condition #32.

12. For all proposed activities that would be located in waters that are designated critical habitat under section 7 of the Endangered Species Act, and waters that are proposed critical habitat, the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32. Refer to the following National Oceanic and Atmospheric Administration (NOAA) Fisheries website for the most up-to-date information regarding Critical Habitat designations under the jurisdiction of the National Marine Fisheries Service (NMFS):
http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/

2017 APPROVED
NATIONWIDE PERMIT REGIONAL GENERAL CONDITIONS
FOR SOUTH CAROLINA (REVISED)

13. For all proposed activities that would be located within a FEMA designated floodway, the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32.

14. The permittee must comply with all FEMA regulations and requirements. The permittee is advised that the National Flood Insurance Program (NFIP) prohibits any development within a designated floodway within the FEMA Special Flood Hazard Area (SFHA), including placement of fill, without a "No Impact Certification" approved by the local NFIP flood plain manager. If the proposed action is located in a designated FEMA SFHA (e.g.,100 year flood plain), the permittee must coordinate with the local NFIP flood plain manager and comply with FEMA requirements prior to initiating construction. A list of NFIP floodplain managers may be found at: http://www.dnr.sc.gov/water/flood/index.html.

15. The permittee must comply with all FEMA regulations and requirements. The permittee is advised that development activities in a designated FEMA Special Flood Hazard Area (SFHA) are subject to the floodplain management regulations of the National Flood Insurance Program (NFIP). If the proposed action is located in a designated FEMA SFHA (e.g.,100 year flood plain), the permittee must coordinate with the local NFIP flood plain manager and comply with FEMA requirements prior to initiating construction. A list of NFIP floodplain managers may be found at: http://www.dnr.sc.gov/water/flood/index.html.

For Specific Nationwide Permits:

16. **For NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51 and 52,** in accordance with General Condition # 22(a), Designated Critical Resource Waters, the discharges of dredged or fill material into waters of the United States within, or directly affecting, critical resource waters, including wetlands adjacent to such waters, are NOT authorized by these NWPs. Note: The ACE Basin National Estuarine Research Reserve and the North Inlet Winyah Bay National Estuarine Research Reserve are Designated Critical Resource Waters.

17. **For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38 and 54,** in accordance with General Condition # 22(b), Designated Critical Resource Waters, a *PCN* is required for any activity proposed in designated critical resource waters including wetlands adjacent to those waters. Refer to General Condition #32 for *PCN* requirements. Note: The ACE Basin National Estuarine Research Reserve and the North Inlet Winyah Bay National Estuarine Research Reserve are Designated Critical Resource Waters.

18. **For NWPs 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15, 19 and 36,** the prospective permittee must submit a *PCN* to the District Engineer for any activity that would be located in or adjacent to an authorized Federal Navigation project. These Federal navigation areas include Adams Creek, Atlantic Intracoastal Waterway (AIWW), Ashley River, Brookgreen Garden Canal, Calabash Creek Charleston Harbor (including the Cooper River and Town Creek), Folly River, Georgetown Harbor (Winyah Bay, Sampit River, and Bypass Canal), Jeremy Creek, Little River Inlet, Murrells Inlet (Main Creek), Port Royal Harbor, Savannah River, Shem Creek

(including Hog Island Channel & Mount Pleasant Channel), Shipyard Creek, Village Creek and the Wando River.

19. **For NWPs 3, 11, 12, 13, 14, 15, 20, 22 and 33,** temporary *structure*s, fills, and/or work, including the use of temporary mats, are only authorized for a period of 90 days per temporary impact area and/or phase of the overall project. The permittee may submit a written request at least 15 days prior to the expiration of the original period of 90 days requesting an extension of up to an additional 90 days. The Charleston District Engineer may extend the 90-day period up to an additional 90 days, not to exceed more than a total of 180 days, where appropriate. After expiration of the authorized period (i.e., initial 90 days or up to an additional 90 days), all temporary *structure*s, fills, and/or work, including the use of temporary mats, for the temporary impact area and/or phase of the overall project must be removed and the disturbed areas restored to pre-disturbance conditions. Activities that require the use of temporary *structure*s, fills, and/or work, including the use of temporary mats, in excess of 180 days will require Individual Permit authorization from the Corps prior to construction.

20. **For NWPs 3, 11, 12, 13, 14, 15, 20, 22 and 33,** that require *PCN*s <u>and</u> that involve temporary *structure*s, fills, and/or work, including the use of temporary mats, the *PCN* must include a written description and/or drawings of the proposed temporary activities that will be used during project construction. This requirement is in addition to the *PCN* requirements listed in <u>General Condition #32</u>.

21. **For NWPs 29, 39, 40, 42, 43, 44, 51 and 52,** impacts to stream beds** must be provided in both linear feet and acreage.

22. **NWPs 12, 14, 29, 39, 43, 51 and 52,** will not be used in conjunction with one another for an activity that is considered a *single and complete project.*

23. **For NWPs 12, 14, 29, 39, 46, 51 and 52,** all *PCN*s must include appropriately sized and positioned culverts that meet the requirements of <u>General Conditions #2</u>, #<u>9</u> and #<u>10</u> for each individual crossing of waters of the United States. This requirement is in addition to the *PCN* requirements listed in <u>General Condition #32</u>.

24. **For NWPs 12, 14, 29, 39, 46, 51 and 52,** that include the new construction and/or replacement of culverted road crossings, at a minimum, the width of the base flow culvert(s) shall be approximately equal to the average channel width and will not reduce or increase stream depth. This is a minimum requirement that does not replace local and State requirements for roadway design.

25. **For NWPs 12, 14, 18 and 27,** the *discharge* must not cause the *loss* of more than 300 linear feet of stream bed**, unless for *intermittent* and *ephemeral* stream beds the District Engineer waives the 300 linear foot limit by making a written determination concluding that the *discharge* will result in no more than minimal adverse environmental effects.

26. **For NWPs 12, 14, 18 and 27,** the *discharge* cannot cause the *loss* of more than 300 linear feet

of *perennial stream* beds**.

27. **For NWPs 12, 14, and 18,** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32, prior to commencing the activity if the proposed *discharge* will impact more than 25 linear feet of streambed. This notification requirement is in addition to the *PCN* requirements listed in General Condition #32.

28. **For NWP 3,** paragraph (a) and (c) activities, the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition # 32, if the proposed *discharge* of dredged or fill material will cause the loss of greater than 1/10-acre of waters of the United States or if the proposed *discharge* of dredged or fill material will be located within a special aquatic site, which includes but is not limited to, wetlands, mudflats, vegetated shallows, *riffle and pool complex*es, sanctuaries, and refuges.

29. **For NWP 3,** paragraph (a) activities, the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition # 32, for the repair, rehabilitation or replacement of existing utility lines constructed over *navigable waters* of the United States (i.e., Section 10 waters) and existing utility lines routed in or under *navigable waters* of the United States (i.e., Section 10 waters), even if no *discharge* of dredged or fill material occurs.

30. **For NWP 3,** paragraph (b) activities, excavation of accumulated sediment or other material is not authorized in areas within the immediate vicinity of existing *structure*s (e.g., private or commercial dock facilities, piers, canals dug for boating access, marinas, boat slips, etc.).

31. **For NWPs 7 and 12,** the associated intake *structure* must be screened to prevent entrainment of juvenile and larval organisms, and the inflow velocity of the associated intake *structure*s cannot exceed 0.5 feet/second.

32. Activities authorized by **NWP 7** must occur in the immediate vicinity of the outfall, and must be necessary for the overall construction or modification of the outfall. **NWP 7** shall not be used to authorize ancillary activities such as construction of access roads, installation of utility lines leading to or from the outfall or intake *structure*s, construction of buildings, distant activities, etc.

33. **For utility line activities authorized by NWP 12** (**as well as utility lines associated with projects authorized by NWP 29 and 39)** that involve horizontal directional drilling beneath *navigable waters* of the United States (i.e., section 10 waters), the *PCN* must include a proposed remediation plan (i.e., frac-out plan). This requirement is in addition to the *PCN* requirements listed in General Condition #32.

34. **For utility line activities authorized by NWP 12 (as well as utility lines associated with projects authorized by NWP 29 and 39),** excavated material shall be returned to the trench and any remaining material shall be relocated and retained on an upland disposal site. Substrate containing roots, rhizomes, seeds, and other natural material must be kept viable and replaced at the surface of the excavated site. Impacted wetlands will be replanted with native wetland

species or allowed to naturally re-vegetate from the replaced substrate, as long as the resulting vegetation is native.

35. **For utility line activities authorized by NWP 12 (as well as utility lines associated with projects authorized by NWP 29 and 39),** stream banks that are cleared of vegetation will be stabilized using bioengineering techniques and/ or the planting of deep-rooted native species.

36. **For utility line activities authorized by NWP 12 (as well as utility lines associated with projects authorized by NWP 29 and 39),** construction techniques to prevent draining, such as anti-seep collars, will be required for utility lines buried in waters of the United States when necessary. If no construction techniques to prevent draining are proposed, the prospective permittee must provide appropriate documentation to support that such techniques are not required to prevent drainage of waters of the United States.

37. **For NWP 12,** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32 prior to commencing the activity if the activity will involve temporary *structure*s, fills, and/or work. To be complete, the *PCN* must also include the specifications of how pre-construction contours will be re-established and verified after construction. This notification requirement is in addition to the notification criteria listed for this NWP.

38. **For utility line activities authorized by NWP 12, (as well as utility lines associated with projects authorized by NWP 29 and 39),** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32, prior to commencing the activity if the activity will involve maintained utility crossings. To be complete, the *PCN* must also include a justification for the required width of the maintained crossing that impacts waters of the United States. This notification requirement is in addition to the notification criteria listed for this NWP.

39. **For NWP 12,** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32 prior to commencing the activity if the activity will involve the construction of a sub-station in waters of the United States. To be complete, the *PCN* must also include a statement of avoidance and minimization for the *loss of waters of the United States* impacted by the utility line sub-station. This requirement is in addition to the *PCN* requirements listed in General Condition #32.

40. **For NWP 12,** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32 prior to commencing the activity if the activity will involve the permanent conversion of forested wetlands to herbaceous wetlands. To be complete, the *PCN* must also include the acreage of conversion impacts of waters of the United States and a *compensatory mitigation* proposal or a statement of why *compensatory mitigation* should not be required. This requirement is in addition to the *PCN* requirements listed in General Condition #32.

2017 APPROVED
NATIONWIDE PERMIT REGIONAL GENERAL CONDITIONS
FOR SOUTH CAROLINA (REVISED)

41. **For NWP 13 activities, NWP 54 activities, and living shoreline projects authorized by NWP 27** that require submittal of a *PCN*, the *PCN* must include the following information:

    a. Habitat type along the shoreline;
    b. The presence of stabilization *structure*s in the vicinity of the project;
    c. Cause/s, extent, and approximate rate of erosion (if known);
    d. Site specific information which may include: shoreline orientation, slope, bank height, tidal range, nearshore bathymetry, fetch, substrate stability, etc.;
    e. Rationale for selecting the preferred stabilization technique;
    f. A statement that structural materials toxic to aquatic organisms will not be used and if stone is proposed, a statement that only clean stone, free of exposed rebar, asphalt, plastic, soil, etc., will be used; and
    g. A statement that filter fabric will be used as appropriate when stone or other heavy material is proposed.

    These requirements are in addition to the *PCN* requirements listed in General Condition #32.

42. Projects qualifying for **NWP 27 and/or NWP 54** will require coordination with appropriate Federal, State, and local agencies. The coordination activity will be conducted by the Corps of Engineers. Agencies will generally be granted 15 days to review and provide comments unless the District Engineer determines that an extension of the coordination period is reasonable and prudent.

43. **For NWP 29,** the *loss of waters of the United States* is limited to a maximum of ¼-acre for a single family residence.

44. **For NWPs 29 and 39,** the *discharge*s of dredged or fill material for the construction of *stormwater management facilities* in *perennial streams* are not authorized.

45. **For NWP 33,** the prospective permittee must submit a *PCN* to the District Engineer in accordance with General Condition #32, for temporary construction, access, and dewatering activities that occur in non-tidal waters of the United States, including wetlands. In addition, the *PCN* shall include a restoration plan.

46. **For NWP 36,** only one boat ramp may be constructed on a single lot or tract of land (e.g., each lot within a subdivision).

47. **For NWP 38,** the *PCN* must contain the following information:

    a. documentation that the specific activities are required to effect the containment, stabilization, or removal of hazardous or toxic waste materials as performed, ordered, or sponsored by a government agency with established legal or regulatory authority;

    b. a narrative description indicating the size and location of the areas to be restored, the work involved and a description of the anticipated results from the restoration; and

c. a plan for the monitoring, operation, or maintenance of the restored area.

This requirement is in addition to the *PCN* requirements listed in General Condition #32.

48. **For NWP 41,** a *PCN* must be submitted to the District Engineer for projects that require mechanized land clearing in waters of the United States, including wetlands, in order to access or perform reshaping activities.

49. **NWP 41** is prohibited in channelized streams or stream relocation projects that exhibit natural stream characteristics and/or perform natural stream functions.

50. **For NWP 48,** changing from bottom culture to floating or suspended culture will require submittal of a *PCN* to the District Engineer. Additionally, new aquaculture activities involving suspended or floating culture will require submittal of a *PCN* to the District Engineer. Refer to the *PCN* requirements listed in General Condition #32. Note: If the District Engineer determines that the proposed floating or suspended culture will result in more than minimal adverse environmental effects, an Individual Permit will be required for the proposed activity.

51. **For NWP 48,** when a new commercial shellfish aquaculture activity will occur adjacent to property that is not owned by the prospective permittee, the activity will require submittal of a *PCN* to the District Engineer. The *PCN* must include the following information in addition to the *PCN* requirements listed in General Condition #32:

    a. A map or depiction that shows the adjacent property(ies) and adjacent property owners' contact information. Note: This information may be obtained online from the applicable county's tax information pages.

    b. A signed letter(s) of "no objection" to the proposed commercial shellfish activity from each of the adjacent property owner(s). Each letter shall include the name, mailing address, property address, property Tax Map Parcel (TMS) number, and signature of the property owner.

52. **For NWP 53,** the *PCN* must include a Tier I evaluation, in accordance with the Inland Testing Manual, for the project area immediately upstream of the low-head dam. If the Tier I evaluation indicates contaminated sediments are present, a Tier II evaluation may be required.

53. **For NWP 54 projects and living shoreline and/or oyster restoration projects authorized by NWP 27,** the *PCN* must include the following information in addition to the *PCN* requirements listed in General Condition #32:

    a. A plan view project sketch that shows the proposed project footprint; the Mean High Water (MHW) Line; the Mean Low Water (MLW) Line; marsh line (if applicable); shoreline; width of the waterway at the project location; location of adjacent *structure*s,

such as docks and boat ramps (if applicable); distance of the project footprint from the MHW line; distance of the project footprint from adjacent *structure*s; and proposed location of informational or navigation markers. Refer to c. and d. below, if applicable. Note: Refer to Regional Condition #11 if the proposed project is located in or adjacent to an authorized Federal Navigation project for the additional information that will be required.

b. A cross-section sketch that shows the height of the proposed project above substrate and the water depth at MHW Line and MLW Line in relation to the proposed project.

c. For projects that are 18 inches or less in height above substrate AND consist of hard *structure*s or fill material, such as, but not limited to, riprap, oyster castles, bagged oyster shell and wooden sills, informational signs to alert boaters to the presence of the project area will be required. The *PCN* must include a depiction and description of proposed informational signs. The signs must be made of reflective material or must include reflective tape on the sign or sign post. The signs must be located at each end of the project area and at 100-foot increments along the project area, if applicable. Note 1: Projects that include ONLY the use of loose shell will not require the installation of informational or navigational signs. Note 2: The prospective permittee shall be made aware that the U.S. Coast Guard (USCG) may require the project area to be marked. Prior to commencing work, the permittee shall contact the USCG at U. S. Coast Guard Charleston District Seven, Waterways Management Branch, 909 SE 1st Ave, Suite 406, Miami, FL 33131, or by phone at 305-415-6755 or 305-415-6750, regarding possible markers and/or lighting requirements. The permittee shall install all markers and/or lighting as required by the USCG. In the event that the USCG does not require markers or lighting, the permittee shall mark the project area with Corps approved informational signs as described above. Note 3: These requirements will be added to the NWP verification as special conditions.

d. For projects that are more than 18 inches in height above substrate AND consist of hard *structure*s or fill material, such as, but not limited to, riprap, oyster castles, bagged oyster shell, and wooden sills, the prospective permittee must mark the project area with diamond-shaped white day markers with orange border and black print stating “Danger Obstruction”. The signs shall be located at each end of the project area and at 100-foot increments along the project area, if applicable. Note 1: Projects that include ONLY the use of loose shell will not require the installation of informational or navigational signs. Note 2: Prior to commencing work, the permittee shall contact the USCG at U. S. Coast Guard Charleston District Seven, Waterways Management Branch, 909 SE 1st Ave, Suite 406, Miami, FL 33131, or by phone at 305-415-6755 or 305-415-6750, regarding potential project specific approval of the markers. The permittee shall install all markers and/or lighting as required by the USCG. In the event the USCG does not require these or other markers and/or lighting, the “Danger Obstruction” markers are still required by the Corps. Note 3: These requirements will be added to the NWP verification as special conditions.

2017 APPROVED
NATIONWIDE PERMIT REGIONAL GENERAL CONDITIONS
FOR SOUTH CAROLINA (REVISED)

** For the purpose of these regional conditions, the term “stream bed” also includes features determined to be a “tributary” and a “relatively permanent water.”

Note 1: For the purpose of these regional conditions, bankfull is defined as the top-of-bank to top-of bank of the channel in a cross-sectional view.

Note 2: Regional conditions # 14, #15, and #53d were revised on September 7, 2017.

2017 Nationwide Permit

Please read this Nationwide Permit along with the General, Regional, and Special conditions that may be associated with this permit. It is your responsibility to insure your project meets this nationwide permit and the conditions at all times. If changes are needed or if you cannot meet these requirements, please notify the Corps before proceeding with the work.

14. *Linear Transportation Projects*

Activities required for the crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

***Notification**:* The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.)
(Sections 10 and 404)
(**Authorities:** Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act)

***Note1:** For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).*

***Note2:** Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).*

***Note3:** For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision ". The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).*

Project Number: SAC-2019-00444

Name of Permittee: Ray Funnye

Date of Issuance: October 29, 2019

Upon completion of the activity authorized by this Nationwide Permit/General Permit authorization letter, including any compensatory mitigation, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Regulatory Division – Northeast Branch
1949 Industrial Park Road, Suite 140
Conway, South Carolina 29526

Please note that the authorized activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your Nationwide Permit authorization letter this office may suspend, modify, or revoke this authorization.

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***I hereby certify that the work authorized by the above referenced Nationwide Permit/General Permit authorization letter has been completed in accordance with the terms and conditions of said authorization letter, including the performance of any required compensatory mitigation*.**

_____
Signature of Permittee

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Ray Funnye	File Number: 2019-00444	Date:10/29/2019
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	**PRELIMINARY JURISDICTIONAL DETERMINATION**	**E**

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer, South Atlantic Division, 60 Forsyth St, SW, Atlanta, GA 30308-8801. This form must be received by the Division Engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD **is not appealable**. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact the Corps biologist who signed the letter to which this notification is attached. The name and telephone number of this person is given at the end of the letter.	If you only have questions regarding the appeal process you may also contact the Coordinator for Appeals in our South Atlantic Division Office in Atlanta, Georgia at (404) 562-5136. Jason W. Steele 60 Forsyth St, SW Atlanta, GA 30308-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

Joint Federal and State Application Form For Activities Affecting Waters of the United States Or Critical Areas of the State of South Carolina	This Space for Official Use Only Application No._____ Date Received_____ Project Manager_____ Watershed #_____

Authorities: 33 USC 401, 33 USC 403, 33 USC 407, 33 USC 408, 33 USC 1341, 33 USC 1344, 33 USC 1413 and Section 48-39-10 et. Seq of the South Carolina Code of Laws. These laws require permits for activities in, or affecting, navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. The Corps of Engineers and the State of South Carolina have established a joint application process for activities requiring both Federal and State review or approval. Under this joint process, you may use this form, together with the required drawings and supporting information, to apply for both the Federal and/or State permit(s).

Drawings and Supplemental Information Requirements: In addition to the information on this form, you must submit a set of drawings and, in some cases, additional information. A completed application form together with all required drawings and supplemental information is required before an application can be considered complete. See the attached instruction sheets for details regarding these requirements. You may attach additional sheets if necessary to provide complete information.

1. Applicant Last Name: Funnye	11. Agent Last Name (agent is not required): Goff
2. Applicant First Name: Ray	12. Agent First Name: Judson (Judd)
3. Applicant Company Name: Georgetown County Public Works	13. Agent Company Name: Red Bay Environmental
4. Applicant Mailing Address: 2236 Browns Ferry Road	14. Agent Mailing Address: 720 Hawksbill Court MAR - 7 2019
5. Applicant City: Georgetown	15. Agent City: Mount Pleasant
6. Applicant State: SC / 7. Applicant Zip: 29442	16. Agent State: SC / 17. Agent Zip: 29464
8. Applicant Area Code and Phone No.: (843) 545-3438	18. Agent Area Code and Phone No.: (843) 810-3311
9. Applicant Fax No.: (843) 545-3486	19. Agent Fax No.: (866) 205-8719
10. Applicant E-mail: N/A	20. Agent E-mail: jagoff@comcast.net
21. Project Name: Willard Loop Improvements	22. Project Street Address: Portion of Willard Loop
23. Project City: Hemingway / 24. Project County: Georgetown	25. Project Zip Code: 29554 / 26. Nearest Waterbody: Browns Branch
27. Tax Parcel ID: N/A (County Roadway Right-of-Way)	28. Property Size (acres): 5.495 Acres
29. Latitude: Start: N 33.6747, End: N 33.6807	30. Longitude: Start: W 79.3925, End: W 79.4028

31. Directions to Project Site (Include Street Numbers, Street Names, and Landmarks and attach additional sheet if necessary):

From the intersection of US Highway 17 and US Highway 701 in Georgetown, SC, proceed north on US Highway 701 to its split with SC Highway 51 (Browns Ferry Road). Take a left onto SC Highway 51 and proceed to its intersection with SC Highway 41. Take a right onto SC 41 and proceed approximately 2.4 miles and bear right onto SC Hwy 512/513 (County Line Road). Proceed approximately 2.3 miles to Pleasant Hill Road. Take a right and proceed approximately 1.9 miles to Willard Loop intersection on left side of Pleasant Hill Road. Site location maps and additional supporting information are attached.

32. Description of the Overall Project and of Each Activity in or Affecting U.S. Waters or State Critical Areas (attach additional sheets if needed)

The applicant proposes to mechanically clear 0.037 acres and fill 0.048 acres of freshwater wetlands/waters for improvements to existing Willard Loop. Additional supporting information is attached.

33. Overall Project Purpose and the Basic Purpose of Each Activity In or Affecting U.S. Waters (attach additional sheets if needed):

The overall project purpose and the basic purpose of the proposed wetland impacts are to improve public traffic safety by improving the existing unpaved roadway.

34. Type and quantity of Materials to Be Discharged

Dirt or Topsoil:	177	☒ cubic yards
Clean Sand:		☐ cubic yards
Mud:		☐ cubic yards
Clay:		☐ cubic yards
Gravel, Rock, or Stone:		☐ cubic yards
Concrete:		☐ cubic yards
Other (describe):		☐ cubic yards
TOTAL:	177	cubic yards

35. Type and Quantity of Impacts to U.S. Waters (including wetlands).

Filling:	0.048	☒ acres	☐ sq.ft. 177	☒ cubic yards
Backfill & Bedding:		☐ acres	☐ sq.ft	☐ cubic yards
Landclearing:	0.037	☒ acres	☐ sq.ft	☐ cubic yards
Dredging:		☐ acres	☐ sq.ft.	☐ cubic yards
Flooding:		☐ acres	☐ sq.ft.	☐ cubic yards
Draining/Excavation:		☐ acres	☐ sq.ft.	☐ cubic yards
Shading:		☐ acres	☐ sq.ft.	☐ cubic yards
TOTALS:	0.085 acres		sq.ft.	177 cubic yards

36. Individually list wetland impacts including mechanized clearing, fill, excavation, flooding, draining, shading, etc. and attach a site map with location of each impact (attach additional sheets if needed).

Impact No.	Wetland Type	Distance to Receiving Water body (LF)	Purpose of Impact (road crossing, impoundment, flooding, etc)	Impact Size (acres)
Wetland A, Sheet 4	PFO1/4Bd	Approx. 1,560 LF to Browns Branch	Roadway Improvements	0.002 AC fill, 0.001 AC clear
Wetlands C & D, Sheet 5	PFO1Bd	Adjacent to Browns Branch	Roadway Improvements	0.013 AC fill, 0.012 AC clear
Wetlands E & F, Sheet 6	PFO1/4Bd	Approx. 1,545 LF to Browns Branch	Roadway Improvements	0.033 AC fill, 0.024 AC clear
			Total Wetland Impacts (acres)	0.085 AC

37. Individually list all seasonal and perennial stream impacts and attach a site map with location of each impact (attach additional sheets)

Impact No.	Seasonal or Perennial Flow	Average Stream Width (LF)	Impact Type (road crossing, impoundment, flooding, etc)	Impact Length (LF)
			Total Stream Impacts (Linear Feet)	N/A

38. Have you commenced work on the project site? ☐ YES ☒ NO If yes, describe all work that has occurred and provide dates.

39. Describe measures taken to avoid and minimize impacts to Waters of the United States:

The proposed roadway improvements have been designed to minimize impacts to the adjacent wetlands/waters to the maximum extent practicable while ensuring that the improvements can be implemented and still provide an increase in public traffic safety and a stable roadway section.

40. Provide a brief description of the proposed mitigation plan to compensate for impacts to aquatic resources or provide justification as to why mitigation should not be required (Attach a copy of the proposed mitigation plan for review).

Due to the cumulatively low level of impacts of 0.085 acres required for the proposed roadway improvements, no compensatory mitigation is proposed.

41. See the attached sheet to list the names and addresses of adjacent property owners.

N/A

42. List all Corps Permit Authorizations and other Federal , State, or Local Certifications, Approvals, Denials received for work described in this application.

USACE Jurisdictional Determination Request is attached to this application.

43. Authorization of Agent. I hereby authorize the agent whose name is given on page one of this application to act in my behalf in the processing of this application and to furnish supplemental information in support of this application. [1]

Applicant's Signature 10/30/18 Date

44. Certification. Application is hereby made for a permit or permits to authorize the work and uses of the work as described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent for the applicant. [1]

Applicant's Signature 10/30/18 Date

Agent's Signature 02/21/19 Date

[1]The application must be signed by the person who desires to undertake the proposed activity or it may be signed by a duly authorized agent if the authorization statement in blocks 11 and 43 have been completed and signed. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
1949 INDUSTRIAL PARK ROAD ROOM 140
CONWAY, SOUTH CAROLINA 29526

October 29, 2019

Regulatory Division

Mr. Ray Funnye
Georgetown County Public Works
2236 Browns Ferry Road
Georgetown, South Carolina 29442

Dear Mr. Funnye:

This is in response to a Pre-Construction Notification (PCN) (SAC-2019-00444) received on March 7, 2019, and considered complete on September 24, 2019. In submitting the PCN, you requested verification the proposed project is authorized by a Department of the Army (DA) Nationwide Permit (NWP).

The PCN contains identifying information for this project. The work affecting waters of the United States is part of an overall project known as Willard Loop Improvements. The activities in waters of the United States include filling 0.048 acre and mechanized land clearing of 0.037 acre of jurisdictional waters of the US for a road improvement project. The project involves impacts to not more than 0.085 acre of waters of the United States. The project is located on Willard Loop, north of and adjacent to Pleasant Hill Drive, Hemingway, Georgetown County, South Carolina (Latitude: 33.6781 °, Longitude: -79.3976 °). The PCN also includes the following supplemental information:

a. Drawing sheets 1-9 of 9 titled “Willard Loop Improvements/ SAC-2019-00444/ Georgetown County, SC" and dated August 27, 2019.

b. A delineation of wetlands, other special aquatic sites, and other waters

Based on a review of the PCN, including the supplemental information indicated above, the Corps has determined the proposed activity will result in minimal individual and cumulative adverse environmental effects and is not contrary to the public interest. Furthermore, the activity meets the terms and conditions of NWP 14 Linear Transportation.

For this authorization to remain valid, the project must comply with the enclosed NWP General Conditions, Charleston District Regional Conditions, and the following special conditions:

a. That prior to beginning the authorized work the permittee must obtain and provide the Corps with a copy of all appropriate state certifications and/or authorizations (e.g., 401 Water Quality Certification, Coastal Zone Management Act concurrence, State Navigable Waters Permit, etc.). This PROVISIONAL NWP is NOT VALID until the permittee obtains and provides the requisite state certification(s) and/or authorization(s) in accordance with this special condition.

b. **That impacts to aquatic areas do not exceed those specified in the above mentioned PCN, including any supplemental information or revised permit drawings that were submitted to the Corps by the permittee.**

c. **That the construction, use, and maintenance of the authorized activity is in accordance with the information given in the PCN, including the supplemental information listed above, and is subject to any conditions or restrictions imposed by this letter.**

d. **That the permittee shall submit the attached signed compliance certification to the Corps within 30 days following completion of the authorized work.**

e. **Prior to beginning the authorized work, the permittee must coordinate with the local NFIP flood plain manager and comply with FEMA requirements. A list of NFIP floodplain managers may be found at: http://www.dnr.sc.gov/water/flood/index.html.**

This verification is valid until March 18, 2022, unless the district engineer modifies, suspends, or revokes the NWP authorization in accordance with 33 CFR 330.5(d). If prior to this date, the NWP authorization is reissued without modification or the activity complies with any subsequent modification of the NWP authorization, the verification continues to remain valid until March 18, 2022. If you commence, or are under contract to commence this activity before the NWP expires, or the NWP is modified, suspended, or revoked by the Chief of Engineers or division engineer in accordance with 33 CFR 330.5(b) or (c), respectively, in such a way that the activity would no longer comply with the terms and conditions of the NWP, you will have 12 months after the date the NWP expires or is modified, suspended, or revoked, to complete the activity under the present terms and conditions of this NWP.

This NWP is being verified based on the information you have provided. It is your responsibility to read the attached NWP(s) along with the General, Regional, and Special Conditions before you begin work. If you determine your project will not be able to meet the NWP and the conditions, you must contact the Corps before you proceed.

In all future correspondence, please refer to our file number SAC-2019-00444. A copy of this letter is being forwarded to State and/or Federal agencies for their information. If you have any questions, please contact Megan N. Jackson, Project Manager, at (843) 365-1739, or by email at Megan.N.Jackson@usace.army.mil.

Sincerely,

Digitally signed by HUFF.ROBERT.CHURCHFUL.III.1053912733
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=HUFF.ROBERT.CHURCHFUL.III.1053912733
Date: 2019.10.29 09:12:01 -04'00'

Rob Huff
Watershed Manager

Attachments
- Permit Drawings
- Nationwide Permit General Conditions
- Nationwide Permit Regional Conditions
- Compliance Certification Form

Copies Furnished:

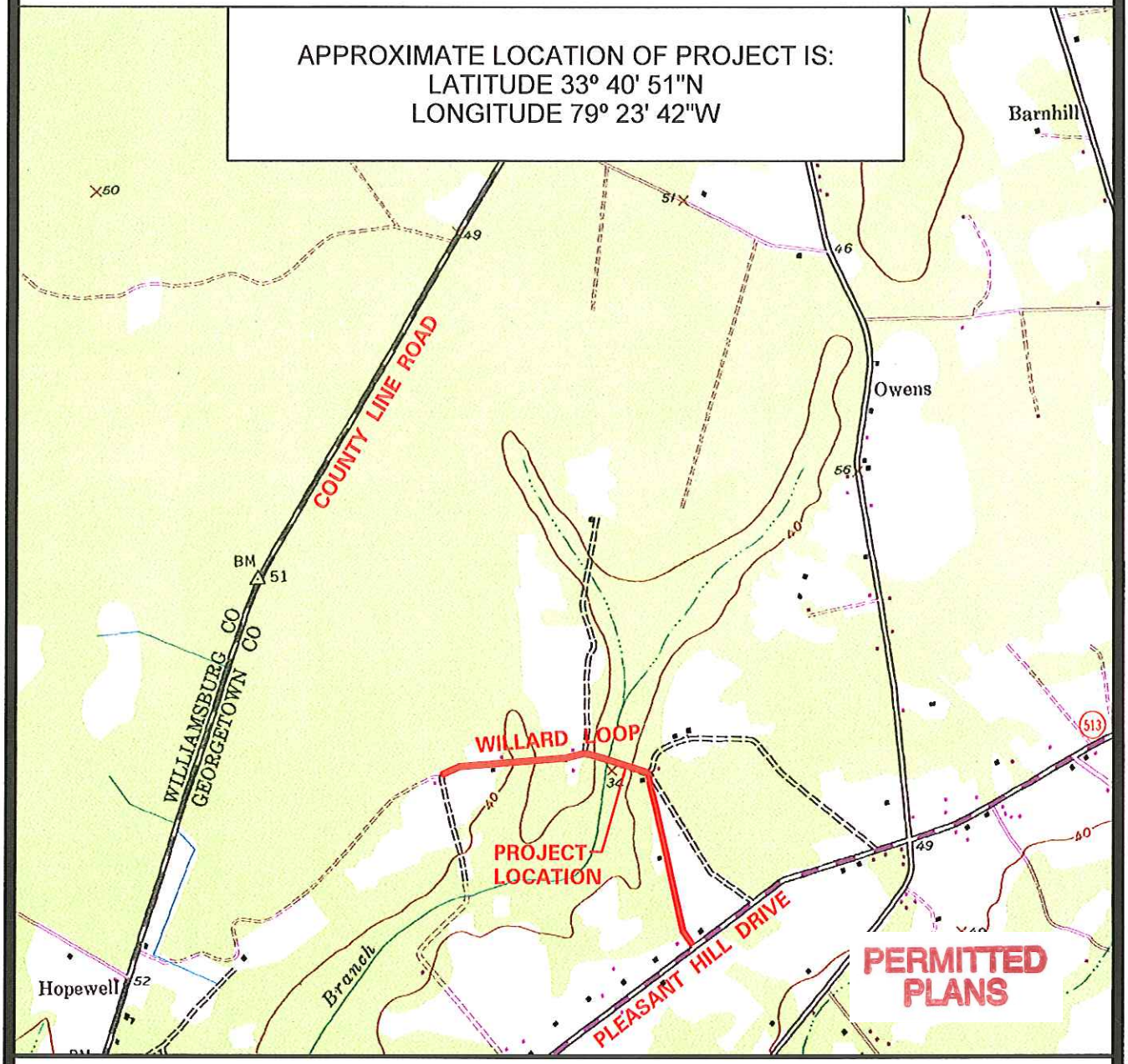
Mr. Judd Goff
Red Bay Environmental
720 Hawksbill Court
Mt. Pleasant, South Carolina 29464

SC DHEC - Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201
WQCWetlands@dhec.sc.gov

SC DHEC - OCRM
1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405
williabn@dhec.sc.gov

VICINITY MAP

FROM: USGS QUAD MAP HENRY (1997)



SHADED AREA INDICATES COUNTY LOCATION IN SC

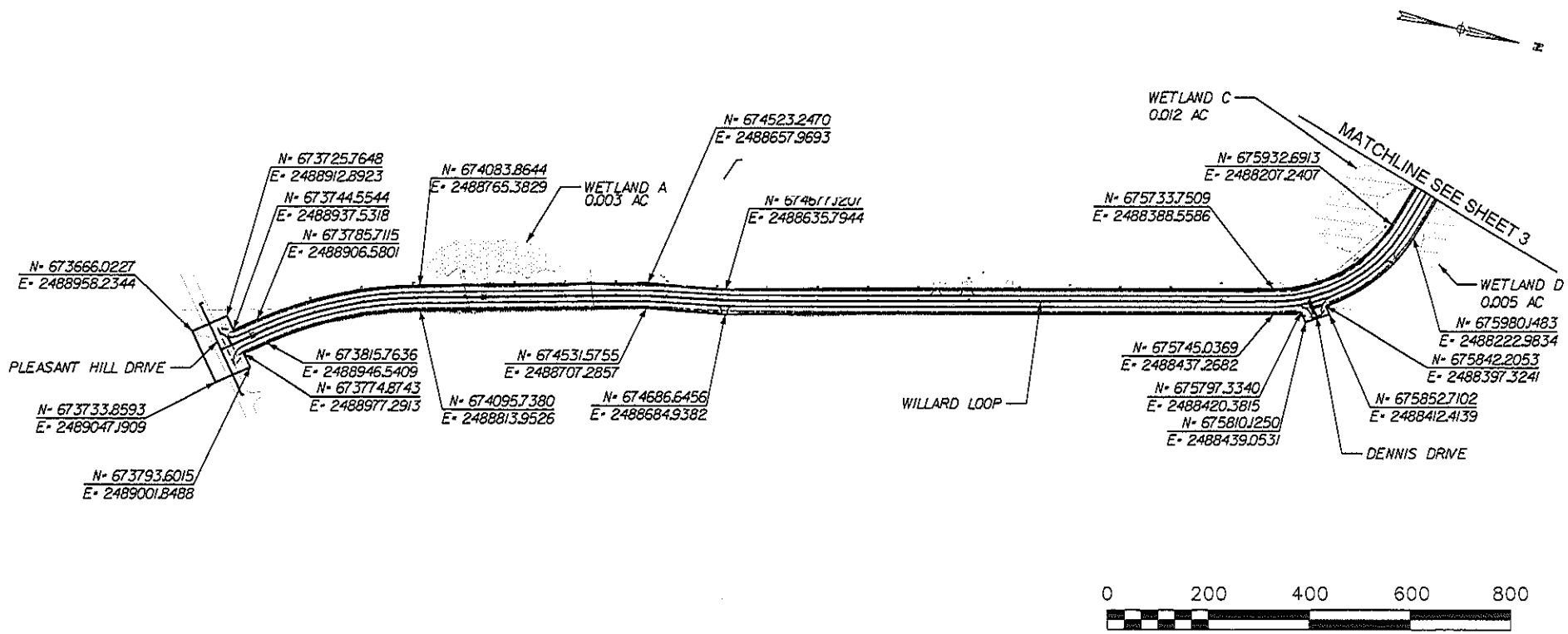
N

0 2000

SCALE FEET

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 1 of 9 August 27, 2019

PROJECT TOTALS
IMPACTED WETLANDS = 0.085 AC
TOTAL WETLANDS = 0.085 AC
TOTAL PROJECT AREA = 5.495 AC

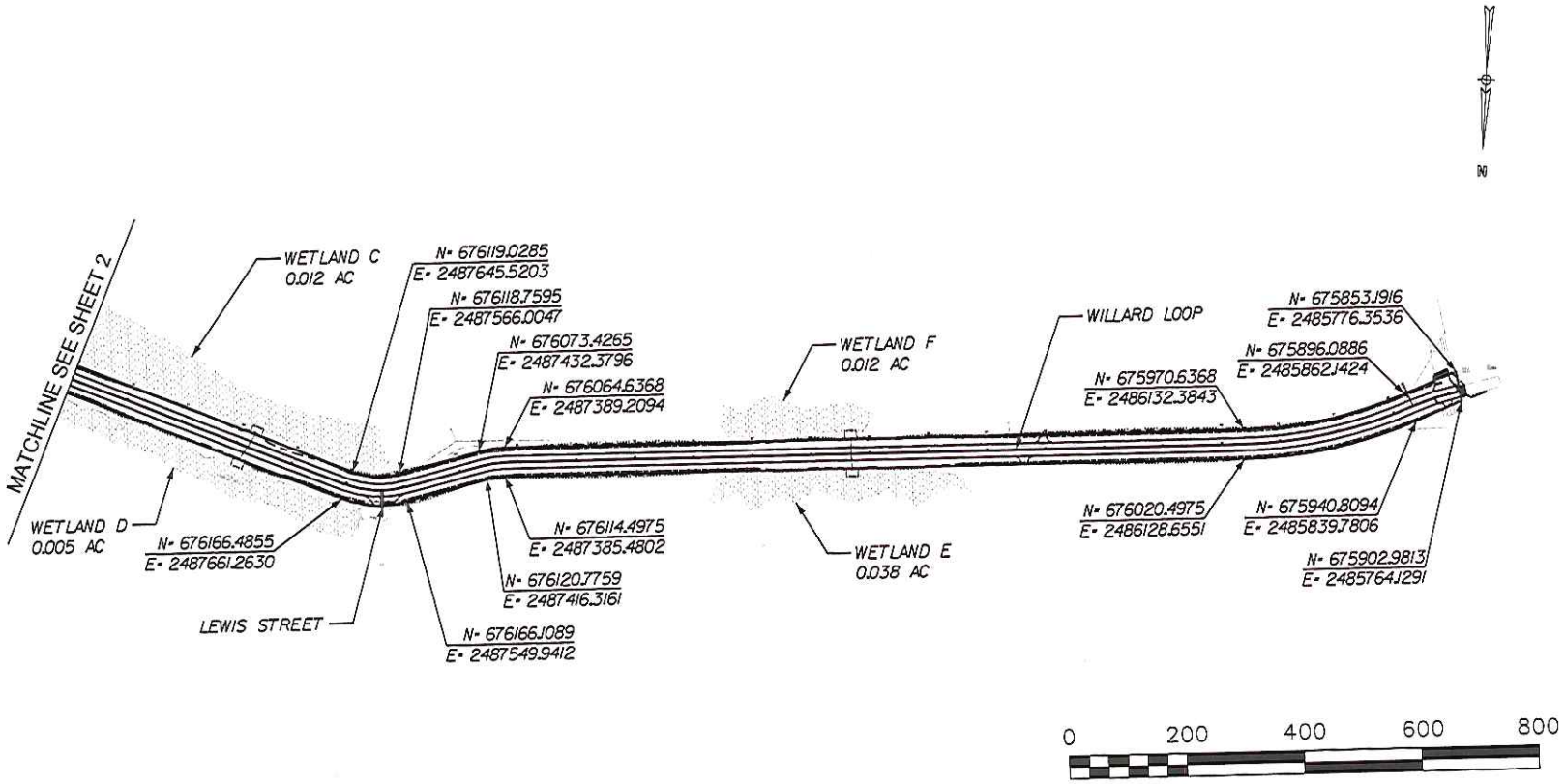


WETLAND IMPACTS	DAVIS & FLOYD
PERMANENT FILL IMPACT: 2067 SF (0.048 AC) PERMANENT CUT IMPACT: 0 SF (0.000 AC) MECHANICAL CLEARING IMPACT: 1605 SF (0.037 AC) TOTAL WETLAND IMPACTS: 3672 SF (0.085 AC)	SINCE 1954 WWW.DAVISFLOYD.COM

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 2 of 9 August 27, 2019

PERMITTED PLANS

PROJECT TOTALS
IMPACTED WETLANDS = 0.085 AC
TOTAL WETLANDS = 0.085 AC
TOTAL PROJECT AREA = 5.495 AC



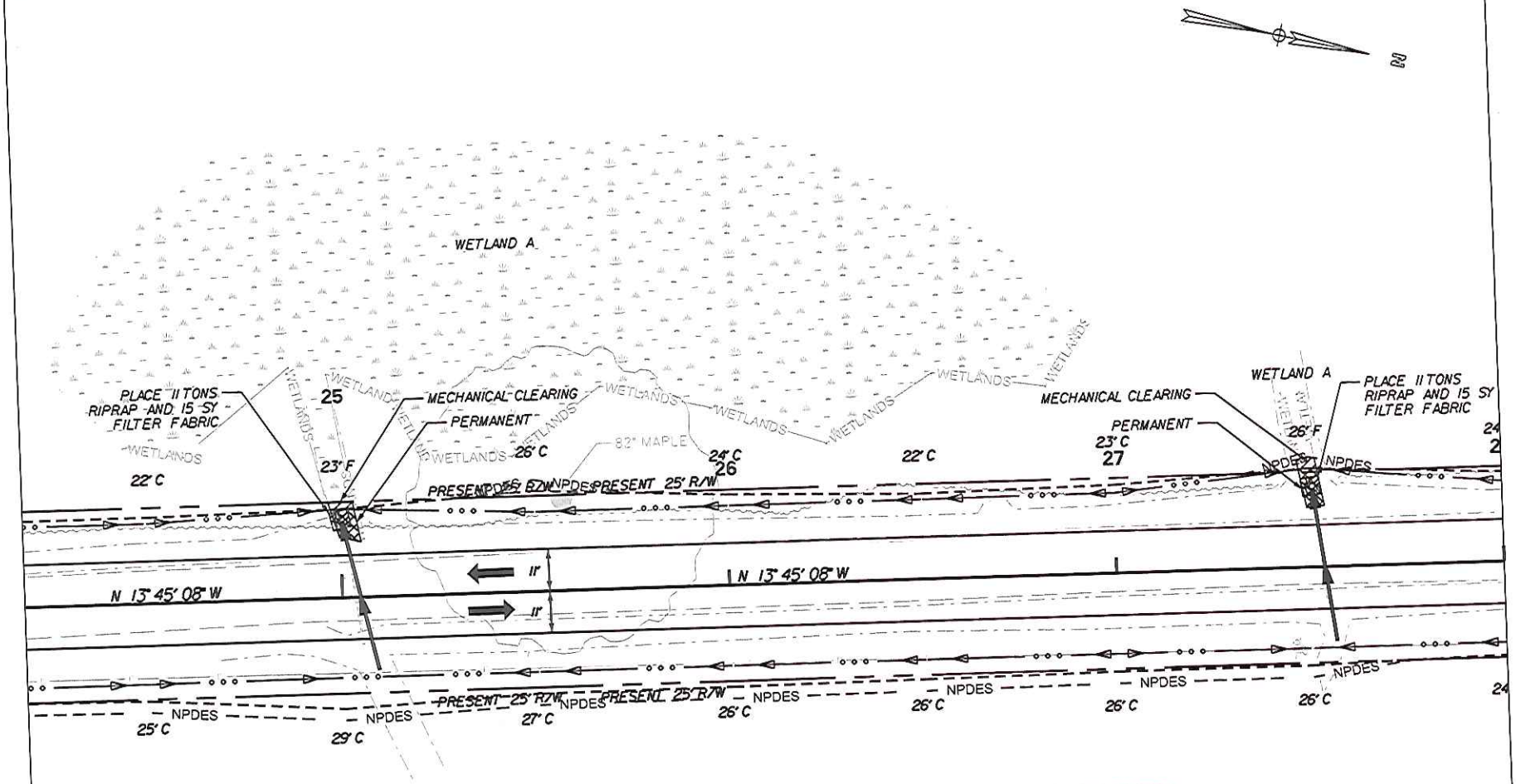
WETLAND IMPACTS

PERMANENT FILL IMPACT: 2067 SF (0.048 AC)
PERMANENT CUT IMPACT: 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT: 1605 SF (0.037 AC)
TOTAL WETLAND IMPACTS: 3672 SF (0.085 AC)

DAVIS & FLOYD
SINCE 1954
WWW.DAVISFLOYD.COM

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 3 of 9 August 27, 2019

PERMITTED PLANS



PERMITTED PLANS

WETLAND A TOTAL IMPACTS
PERMANENT FILL IMPACT = 92 SF (0.002 AC)
PERMANENT FILL IMPACT = 5 CY
PERMANENT CUT IMPACT = 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT = 25 SF (0.001 AC)

PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

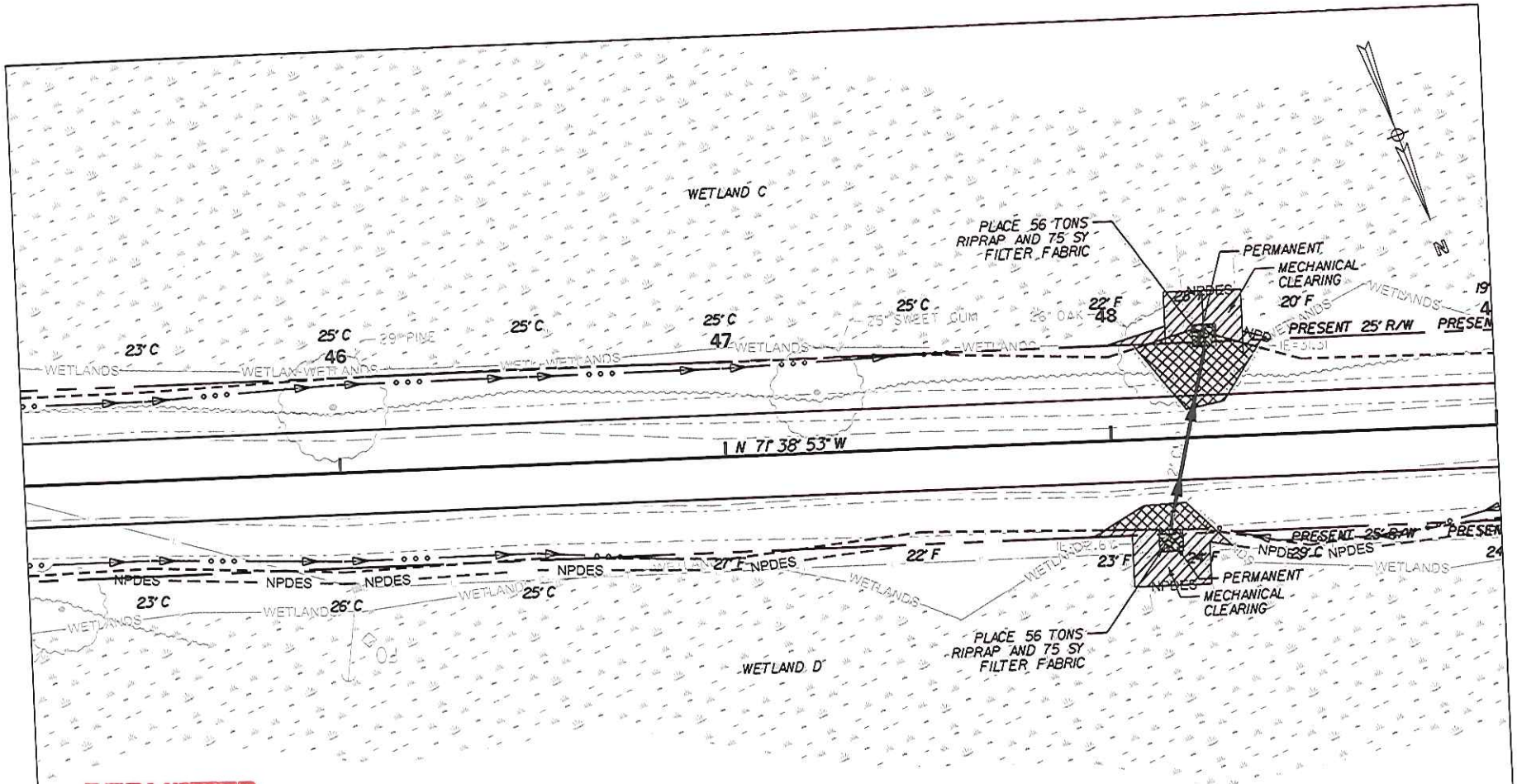
0 40

LEGEND
PERMANENT WETLAND IMPACT (FILL/CUT)
MECHANICAL CLEARING IMPACT

SEI

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 4 of 9 August 27, 2019

A



PERMITTED PLANS

WETLAND C TOTAL IMPACTS
PERMANENT FILL IMPACT = 402 SF (0.009 AC)
PERMANENT FILL IMPACT = 69 CY
PERMANENT CUT IMPACT = 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT = 269 SF (0.006 AC)

WETLAND D TOTAL IMPACTS
PERMANENT FILL IMPACT = 165 SF (0.004 AC)
PERMANENT FILL IMPACT = 4 CY
PERMANENT CUT IMPACT = 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT = 283 SF (0.006 AC)

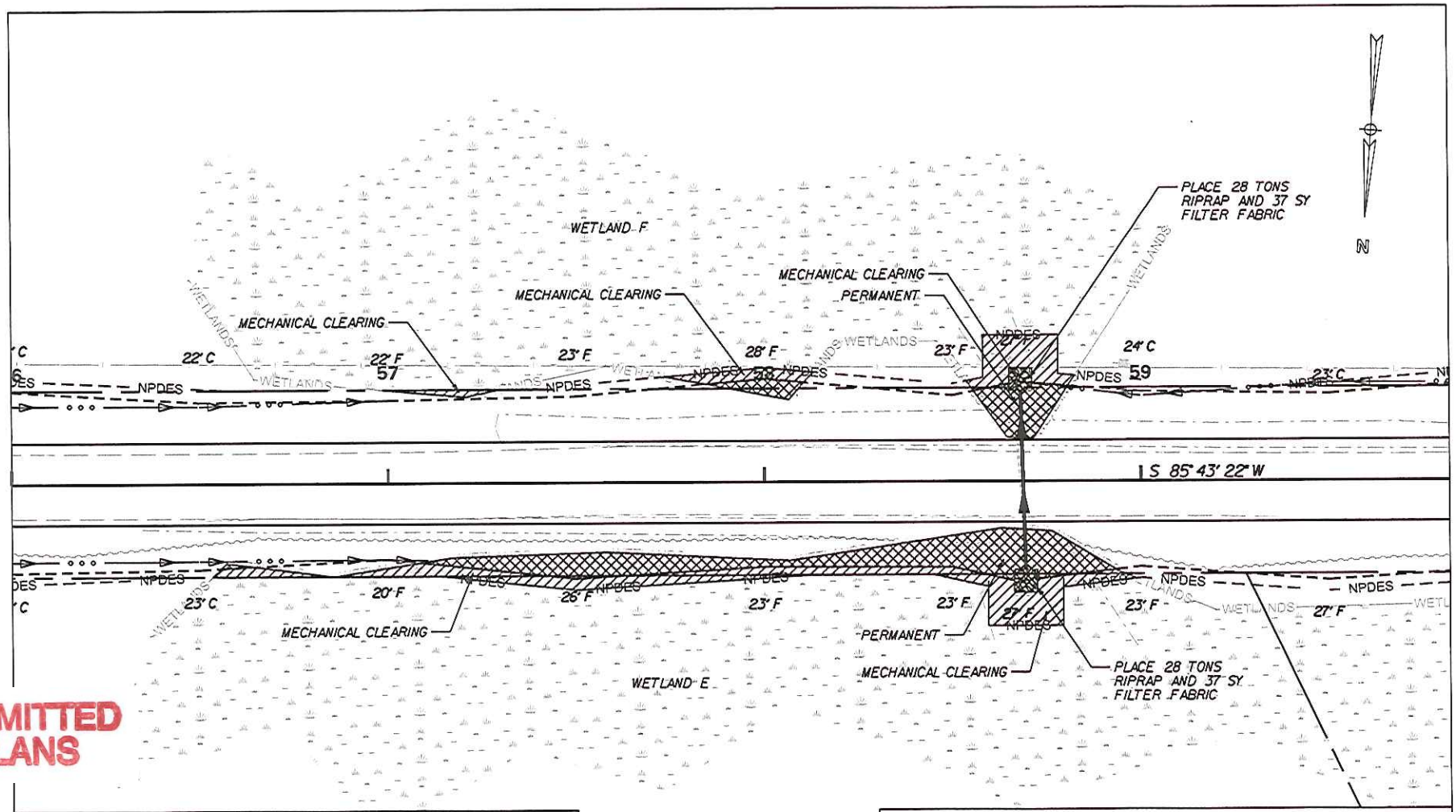
PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

0 40

LEGEND
PERMANENT WETLAND IMPACT (FILL/CUT)
MECHANICAL CLEARING IMPACT

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 5 of 9 August 27, 2019

& D



PERMITTED PLANS

WETLAND E TOTAL IMPACTS
PERMANENT FILL IMPACT = 1075 SF (0.025 AC)
PERMANENT FILL IMPACT = 73 CY
PERMANENT CUT IMPACT = 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT = 635 SF (0.015 AC)

WETLAND F TOTAL IMPACTS
PERMANENT FILL IMPACT = 333 SF (0.008 AC)
PERMANENT FILL IMPACT = 26 CY
PERMANENT CUT IMPACT = 0 SF (0.000 AC)
MECHANICAL CLEARING IMPACT = 393 SF (0.009 AC)

PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

0 40

LEGEND
PERMANENT WETLAND IMPACT (FILL/CUT)
MECHANICAL CLEARING IMPACT

SEI

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 6 of 9 August 27, 2019

: & F

PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

VOLUMES

SEE PLAN SHEET FOR QUANTITIES

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
August 27, 2019
Sheet 7 of 9

WETLANDS A,C,D

SHEET 7

1" = 20'

PERMITTED PLANS

PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

VOLUMES

SEE PLAN SHEET FOR QUANTITIES

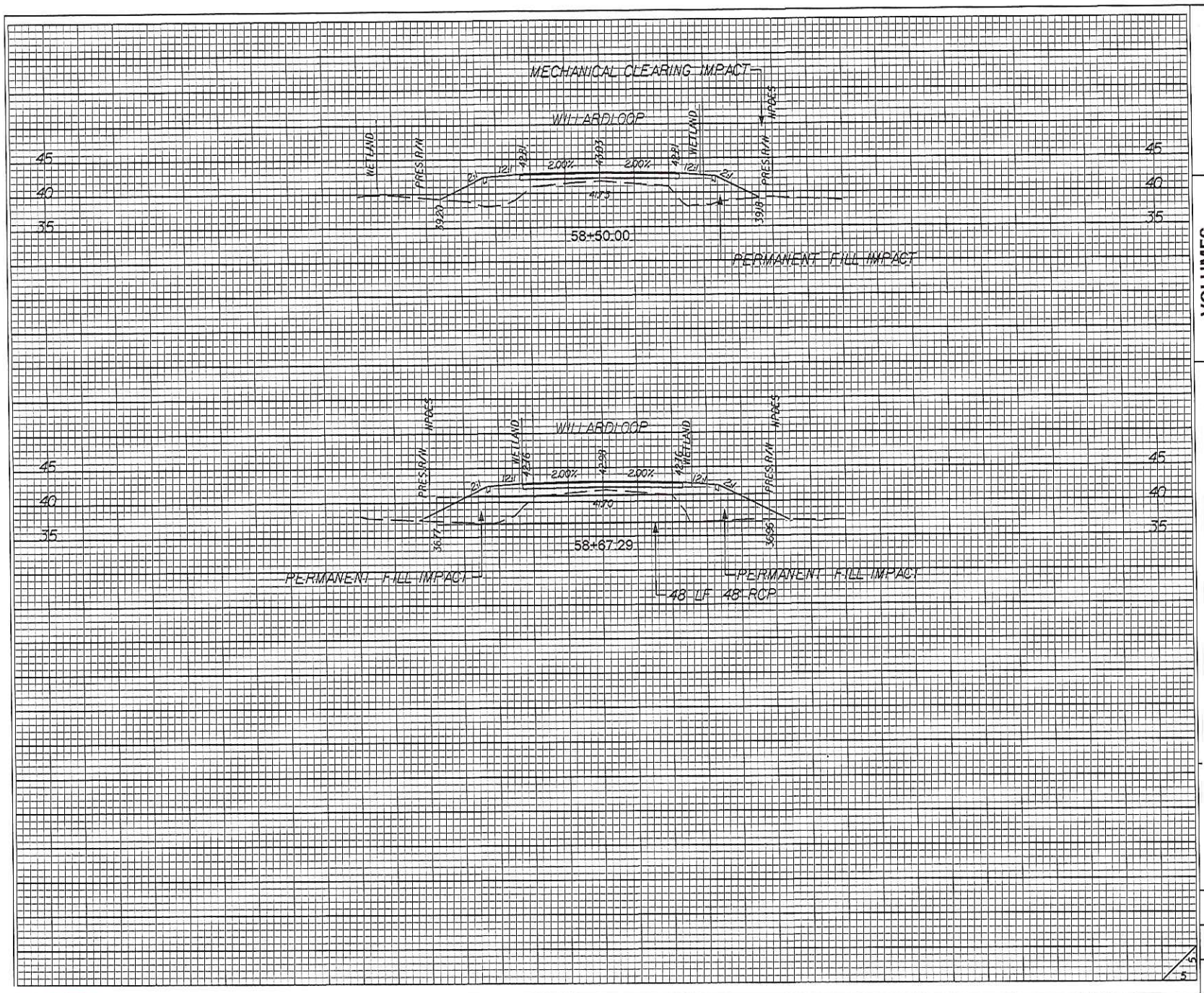
"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
August 27, 2019
Sheet 8 of 9

WETLANDS E,F

SHEET 8

1" = 20'

PERMITTED PLANS



PREPARED BY:
DAVIS & FLOYD, INC.
CHARLESTON, SC

VOLUMES

SEE PLAN SHEET FOR QUANTITIES

"Willard Loop Improvements"
SAC-2019-00444
Georgetown County, SC
Sheet 9 of 9
August 27, 2019

WETLANDS E,F

SHEET 9

1" = 20'

PERMITTED PLANS

DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
1949 INDUSTRIAL PARK ROAD ROOM 140
CONWAY, SOUTH CAROLINA 29526

October 29, 2019

Regulatory Division

Mr. Judd Goff
Red Bay Environmental
720 Hawksbill Court
Mt. Pleasant, South Carolina 29464

Dear Mr. Goff:

This is in response to your request for a Preliminary Jurisdictional Determination (PJD) (SAC-2019-00444) received in our office on March 7, 2019, for a 5.495-acre site located on Willard Loop, north of and adjacent to Pleasant Hill Drive, Hemingway, Georgetown County, South Carolina (Latitude: 33.6781°, Longitude: -79.3977°). A PJD is used to indicate the approximate location(s) and boundaries of wetlands and/or other aquatic resources presumed to be waters of the United States on a site pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344) and/or navigable waters of the United States pursuant to Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. § 403).

The site in question is shown on the attached depiction entitled "Willard Loop Improvements/ SAC-2019-00444/ Georgetown County, SC" and dated August 27, 2019, prepared by DAVIS & FLOYD. Based upon a review of aerial photography, topographic maps, National Wetlands Inventory maps, soil survey information, and Wetland Determination Data Form(s), it is concluded the boundaries shown on the referenced depiction are a reasonable approximation of the aquatic resources found within the site that are presumed to be subject to regulatory jurisdiction of the Corps of Engineers. The site in question contains approximately 0.085 acres of federally defined wetlands that are presumed to be waters of the United States subject to regulatory jurisdiction under Section 404 of the CWA.

You are cautioned the boundaries of the delineated wetlands and/or other aquatic resources presumed to be subject to regulatory jurisdiction of the Corps of Engineers shown on the attached depiction are approximate and subject to change.

By providing this PJD, the Corps of Engineers is making no legally binding determination of any type regarding whether jurisdiction exists over the particular aquatic resource(s) in question. This PJD is not a definitive determination of the presence or absence of areas within the Corps of Engineers' jurisdiction, and, therefore, it does not have an expiration date. A PJD is "preliminary" in the sense that a recipient of a PJD can later request and obtain an Approved Jurisdictional Determination (AJD) for a definitive, official determination of the presence or absence of jurisdictional aquatic resources on a site, including the identification of the geographic limits of the jurisdictional aquatic resources. In order for a definitive determination of jurisdiction to be provided, you must submit a request for an AJD.

Be aware a permit from this office may be required for certain activities in the areas identified as wetlands and/or other aquatic resources that are presumed to be subject to regulatory jurisdiction of the Corps of Engineers, and these areas may be subject to restrictions or requirements of other state or local government entities. A PJD may be used as the basis of a permit decision; however, for purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a PJD will treat all aquatic resources affected in any way by the permitted activity as jurisdictional. If you intend to request an AJD in the future, you are advised not to commence work in these wetlands and/or other aquatic resources presumed to be jurisdictional prior to receiving the AJD. Attached is a Preliminary Jurisdictional Determination Form describing the areas in question and clarifying the option to request an AJD.

Please note that this is a PJD, and is not an appealable action under the Corps of Engineers' administrative appeal procedures defined at 33 CFR 331. If a permit application is forthcoming as a result of this PJD, a copy of this letter, as well as the depiction should be submitted as part of the application. Otherwise, a delay could occur in confirming that a PJD was performed for the proposed project area.

It should also be noted that some or all of these areas may be regulated by other state or local government entities, and you should contact the South Carolina Department of Health and Environmental Control to determine the limits of their jurisdiction.

This PJD was conducted to identify approximate location(s) of aquatic resources presumed to be subject to regulatory jurisdiction of the Corps of Engineers on the particular site identified in this request. This PJD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

Attached is a copy of the Preliminary Jurisdictional Determination Form signed by our office. Please sign, retain a copy for your records, and return a signed copy to this office within 30 days of receipt of this letter.

In all future correspondence, please refer to file number SAC-2019-00444. A copy of this letter is being forwarded to State and/or Federal agencies for their information. If you have any questions, please contact Megan N. Jackson, Project Manager, at (843) 365-1739, or by email at Megan.N.Jackson@usace.army.mil.

Sincerely,

Digitally signed by HUFF.ROBERT.CHURCHFUL.III.1053912733
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=HUFF.ROBERT.CHURCHFUL.III.1053912733
Date: 2019.10.29 09:20:14 -04'00'

Rob Huff
Watershed Manager

Attachments:
Preliminary Jurisdictional Determination Form
Notification of Appeal Options
Self-addressed envelope
"Willard Loop Improvements/ SAC-2019-00444/ Georgetown County, SC"

Copies Furnished:

Mr. Ray Funnye
Georgetown County Public Works
2236 Browns Ferry Road
Georgetown, South Carolina 29442

SCDHEC - OCRM
1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405
OCRMPermitting@dhec.sc.gov

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 29OCT2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Applicant:
Mr. Ray Funnye
Georgetown County Public Works
2236 Browns Ferry Road
Georgetown, South Carolina 29442

Consultant:
Mr. Judd Goff
Red Bay Environmental
720 Hawksbill Court
Mt. Pleasant, South Carolina 29464

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: SAC-2019-00444 Willard Loop Improvements

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: The project is located adjacent to Willard Loop, Georgetown, Georgetown County, South Carolina

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: South Carolina County/parish/borough: Georgetown County City: Georgetown

Center coordinates of site (lat/long in degree decimal format):

Lat.: 33.6781 ° Long.: -79.3977 °

Universal Transverse Mercator:

Name of nearest waterbody: Brown Branch

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: October 4, 2019

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Wetland A	33.6759	-79.3936	0.003	Wetland	Section 404

Wetland C	33.6815	-79.3954	0.012	Wetland	Section 404
Wetland D	33.6803	-79.3961	0.005	Wetland	Section 404
Wetland E	33.6805	-79.3986	0.038	Wetland	Section 404
Wetland F	33.6814	-79.3992	0.012	Wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: The project area is depicted on a map titled "Willard Loop Improvements/ SAC-2019-00444" Georgetown County, SC" dated August 27, 2019

☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☒ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report. Rationale:

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:

☐ USGS NHD data. USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: Henry Quad: USGS depicts the project area as a dashed road and a forested area. A blue line crosses over the project boundary however, information submitted from the agent shows that no bed and bank or OHWM is present within the boundary. The area is a drainage way of Brown Brach.

☒ Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Sheet 3; project area is comprised of the non-hydric soil Chisolm Sand, and the hydric soils Yauhannah, Bladen.

☒ National wetlands inventory map(s). Cite name: wetland inventory map(s): U42P, PFO4Bd, PFO1Bd; the project area is a mix of uplands (U42P) and partially drained/ditched wetlands (PFO4Bd, PFO1Bd).

☐ State/local
☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): Aerial Index 99:11223:15, SCDNR 2006, Google Earth 2019

☒ Other (Name & Date): Site photos submitted by the agent

☐ Previous determination(s). File no. and date of response letter:
☐ Other information (please specify):

<u>IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.</u>

Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.