

**105**  
**PROJECT SPECIAL PROVISION**

(10-18-95)

Z-1

**PERMITS**

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

<b><u>PERMIT</u></b>	<b><u>AUTHORITY GRANTING THE PERMIT</u></b>
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR State of North Carolina

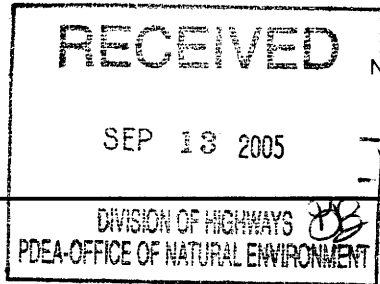
The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by \* are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-14 of the *Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

**Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.**



North Carolina Department of Environment and Natural Resources

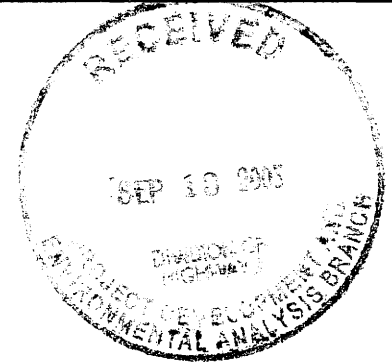
Michael F. Easley, Governor  
William G. Ross Jr., Secretary

Alan W. Klimek, P.E. Director  
Division of Water Quality

106

*Underwood*

September 6, 2005



Dr. Gregory J. Thorpe, PhD., Manager  
Planning and Environmental Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

Re: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Tar-Pamlico River Buffer Authorization for Proposed Improvements to US 17 (Washington Bypass) from south of SR 1127 (Possum Track Road) to north of SR 1418 (Roberson Road) in Beaufort County, TIP No. R-2510 A, B and C, State Project No. 8.T150601, Federal Aid Project No. MAF-75-3(26).  
DWQ Project No. 050785

Attached hereto is a copy of Certification No. 3527 issued to The North Carolina Department of Transportation dated September 6, 2005.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Alan W. Klimek, P.E.  
Director

Attachments

- cc: Wilmington District Corps of Engineers
- Mr. Bill Biddlecome, Corps of Engineers Washington Field Office
- Mr. Christopher Militscher, US EPA, Region IV
- Mr. C.E. Lassiter, Jr., PE, Division 2 Engineer, PO Box 1587, Greenville, NC 27835
- Mr. Jay Johnson, Division 2 Environmental Officer, PO Box 1587, Greenville, NC 27835
- Mr. Chris Underwood, NEU, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604
- Mr. William Gilmore, Ecosystem Enhancement Program
- Mr. Steven Sollod, NCDENR - DCM, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604
- Mr. Garcy Ward, NCDWQ Washington Regional Office
- Central Files
- File Copy

**APPROVAL OF 401 Water Quality Certification and ADDITIONAL CONDITIONS  
And Tar Pamlico River Buffer Rules**

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, Section .0500. The project shall be constructed pursuant to the application dated received August 5, 2005, to construct US 17 (Washington Bypass) from South of SR 1127 (Possum Track Road) to North of SR 1418 (Roberson Road) in Beaufort County. The approved design is that submitted in your application dated received August 5, 2005. This certification authorizes the NCDOT to impact 12.41 acres of jurisdictional wetlands, permanently impact 4,244.4 linear feet of stream, 1.49 acres of surface water and impact 383,268.8 square feet of protected Tar-Pamlico Riparian Buffers (234,117.8 square feet in Zone 1 and 149,151 square feet in Zone 2) in Beaufort County. The authorized impacts are as described below:

**Section A Wetland Impacts in Tar-Pamlico River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing Method III (ac)
1	0.0784		0.0441	0.0542
2			0.0214	0.2438
3	0.0108		0.0072	0.0058
4	0.3014		0.3302	0.1425
5	0.0404		0.0877	0.0676
6	1.0470			0.1639
7	0.1491			0.0051
8	0.2530		0.0128	0.0646
9	0.1186		0.0873	0.0276
10	0.4161		0.1659	0.2455
11			0.0359	0.0079
12	0.0171			
15	0.1766		0.0154	0.0789
16	0.2049			0.0475
17	0.0047		0.0093	0.0055
<b>Total</b>	<b>2.8080</b>	<b>0</b>	<b>0.8171</b>	<b>1.1604</b>

**Section B Wetland Impacts in the Tar -Pamlico River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)
1	0.092			0.007
2			0.017	0.013
3	0.431			0.040
4	3.032			0.149
5	0.122			0.011
6	0.216	0.050		
7	1.554			
8	0.042			
9	0.126			0.017
10	0.223			
<b>Total</b>	<b>5.839</b>	<b>0.050</b>	<b>0.017</b>	<b>0.237</b>

**Section C Wetland Impacts in the Tar-Pamlico River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)
1A	0.022			0.027
1B			0.074	0.021
1C			0.056	0.019
3	0.093			0.031
4	1.035			0.108
<b>Total</b>	<b>1.15</b>	<b>0</b>	<b>0.13</b>	<b>0.206</b>

**Section A Surface Water and Stream Impacts in the Tar-Pamlico River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)
3	0.0105	0.0061	113
12	0.0140	0.0019	88
13	0.0087	0.0036	52
14	0.0119	0.0080	122
15	0.0219	0.0310	103
<b>Total</b>	<b>0.0670</b>	<b>0.0506</b>	<b>478</b>

**Section B Surface Water and Stream Impacts in the Tar-Pamlico River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)
1	0.011		121.6
2	0.003		72.7
3	0.759		
4			826.1
6	0.069	0.033	
7	0.128		1118
8	0.074		
9	0.051		278.9
<b>Total</b>	<b>1.095</b>	<b>0.033</b>	<b>2,417.3</b>

**Section C Surface Water and Stream Impacts in the Tar-Pamlico River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)
2	0.003		113.8
3	0.018		159.3
4	0.287		841.6
5A	0.007		107.5
5B	0.008		72.5
5C	0.006		54.4
<b>Total</b>	<b>0.329</b>	<b>0</b>	<b>1,349.1</b>



**Section A Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
1	12,548.7	7,215	1,034.9		11,513.8	7,215
2	7,000.1	4,327.3	886.4		6,113.7	4,327.3
3	10,019.3	5,931.8			10,019.3	5,931.8
4	13,129.4	6,815.4			13,129.4	6,815.4
5	15,405	7,489	4,051	2,737.4	11,354	4,751.6
6	2,165.1	1,383.8	853		1,312.1	1,383.8
<b>Total</b>	<b>60,330.6</b>	<b>33,162.3</b>	<b>6,825.3</b>	<b>2,737.4</b>	<b>53,505.3</b>	<b>30,424.9</b>

**Section B Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
1	6,676.6	4,450	4,312.9			
2	2,842.1	1,992.6	1,179.5	98.8		
4	49,735.4	32,361	48,299	24,287.9	1,436.4	8,073.1
6A	9,424.7	6,215.2	35.5	3		
6B	10,188.4	6,628.1	7.5	3		
6C	29,045.5	19,778.2	35.5	41.5	29,010	19,736.7
7	60,721.8	38,160.8	3,079.2	5,244.5	57,642.6	32,916.3
9	16,736.8	11,154.9	2,253.9	1,944.5	14,482.9	9,210.4
<b>Total</b>	<b>185,371.3</b>	<b>116,290.7</b>	<b>59,202.9</b>	<b>31,623.2</b>	<b>102,571.9</b>	<b>69,936.5</b>

**Section C Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
1A	14,759.6	9,684.9	1,477.4	453.3	13,282.2	9,231.6
3	10,208.7	6,621.8	521.8	934.7	9,686.9	5,687.1
4	55,506.1	33,873.3	434.6	2.4	55,071.5	33,870.9
5A	8,114.1	5,294.4				
5B	6,986.8	4,080.4				
5C	3,976.1	2,628.6				
<b>Total</b>	<b>99,551.5</b>	<b>62,183.2</b>	<b>2,433.9</b>	<b>1,390.3</b>	<b>78,040.6</b>	<b>48,789.6</b>

**Mitigation Requirements for Tar-Pamlico Riparian Buffers Project Wide**

	Impact (sq. ft.)	Replacement Ratio	Total Impact (sq. ft.)	Fee schedule	Payment amount for Mitigation
<b>Zone 1</b>	234,117.8	3:1	702,353.4	\$0.96/sq. ft.	\$674,259.26
<b>Zone 2</b>	149,151	1.5:1	223,726.5	\$0.96/sq. ft.	\$214,777.44
<b>Total Mitigation Payment Required</b>					<b>\$889,036.7</b>

The application provides adequate assurance that the discharge of fill material into the waters of the Tar-Pamlico River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received August 5, 2005, as described in the Public Notice. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is sooner.

**Condition(s) of Certification:**

1. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
  - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
  - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
  - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
  - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act
2. All sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project.
3. If an environmental document is required, this Certification is not valid until a FONSI or ROD is issued by the State Clearinghouse. All water quality-related conditions of the FONSI or ROD shall become conditions of this Certification;
4. No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.
5. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.

- 6. All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.
- \*7. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
- \*8. The NCDOT will need to adhere to all appropriate in-water work moratoriums (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission, the US Fish and Wildlife Service, and National Marine Fisheries Service. No in-water work is permitted between February 15 and June 15 of any year, without prior approval from the NC Division of Water Quality and the NC Wildlife Resources Commission. In addition, NCDOT shall conform with the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997) at all times.
- 9. When final design plans are completed for R-2510 Section B and C, a modification to the 401 Water Quality Certification and the Tar-Pamlico River Riparian Buffer Certification shall be submitted with seven copies and fees to the NC Division of Water Quality. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or protected riparian buffers located in R-2510 Section B and C shall begin until after NCDOT applies for, and receives a written modification 401 Water Quality Certification and Tar-Pamlico River Riparian Buffer Authorization from the NC Division of Water Quality.
- \*10. Compensatory mitigation for impacts 383,268.8 square feet of Tar-Pamlico Riparian Buffers shall be provided for as described below.

Zone of Impact	Impacts (Square Feet)	Replacement Ratio	Total Square Feet of Mitigation Required
Zone 1	234,117.8	3:1	702,354.4
Zone 2	149,151	1.5:1	223,726.5
Total	383,268.8		926,080.9

We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through an in lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Tar-Pamlico Riparian Buffers shall be provided through an in-lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP) at a rate of \$0.96 per square foot. Therefore, a total payment of \$889,036.7 shall be submitted to the NCEEP to offset the impacts. No construction activities in Tar-Pamlico River Riparian buffers shall begin until payment for buffer mitigation is made and the Ecosystem Enhancement Program receives and clears your check (made payable to DENR Ecosystem Enhancement Program). The payment to NCEEP shall be sent within two months of issuance of the 404 permit. If you have any questions concerning the Ecosystem Enhancement Program please contact them at 919-733-5208.

- 11. Compensatory mitigation for impacts to 12.41 acres of jurisdictional wetlands shall be done. Total mitigation shall be provided as described below:

*Offsite Compensatory Mitigation*

Compensatory mitigation for the unavoidable impacts to 8.53 acres of riparian wetlands and 3.88 acres of non-riparian wetlands in the Hydrologic Cataloging Unit 03020104, associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated August 4, 2005, and in accordance with the Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003.

- \*12. Compensatory mitigation for impacts to 4,244.4 linear feet of streams shall be done at a replacement ratio of 2:1, except sites A3, and B7, which will be done at a ratio of 1:1. Applying a replacement ratio of 2:1 or 1:1, total mitigation for 7,255.8 linear feet of streams shall be provided as described below:

*Offsite Compensatory Mitigation*

Compensatory mitigation for the unavoidable impacts to 4,244.4 linear feet of streams in the Hydrologic Cataloging Unit 03020104 associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated August 4, 2005, and in accordance with the Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003.

13. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
14. All temporary fills in wetlands and surface waters shall be removed upon completion of the project. In addition, the post-construction removal of any temporary bridge structures or fill will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species will be required.
15. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
16. The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
17. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
18. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
19. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
20. Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided to the NC Division of Water Quality that the final construction drawings comply with the attached permit drawings contained in your application dated August 5, 2005.
21. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
22. NCDOT, and its authorized agents, shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water

Act) and any other appropriate requirements of State law and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification to include conditions appropriate to assure compliance with such standards and requirements in accordance with 15A NCAC 2H.0507(d).

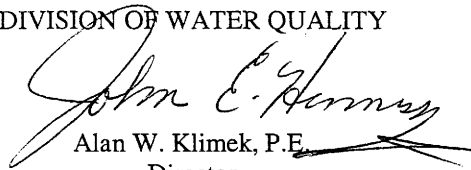
23. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
24. DOT shall schedule a preconstruction meeting for this project prior to incurring any impacts in jurisdictional waters including wetlands. The Division of Water Quality shall be notified a minimum of 30 days prior to the preconstruction conference.
25. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.
26. If the above condition (#25) is unable to be met, due to bedrock or other limiting features encountered during construction, please contact the NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
27. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
28. Any violations, during the construction of the approved project, of this 401 Water Quality Certification or the North Carolina State Water Quality Standards as defined in 15A NCAC 2B .0200 Rules, shall be reported immediately to the North Carolina Division of Water Quality.
29. Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

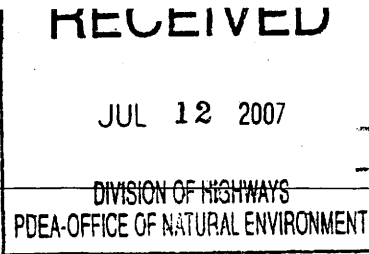
This the 6th day of September 2005

DIVISION OF WATER QUALITY



Alan W. Klimek, P.E.  
Director

WQC No. 3527



115

Michael R. Easley, Governor

William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins Director  
Division of Water Quality

July 9, 2007

Dr. Greg Thorpe, PhD., Manager  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina, 27699-1548

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Tar-Pamlico River Buffer Authorization, with Additional Conditions for Proposed Improvements to US 17 (Washington Bypass) in Beaufort County, Federal Aid Project No. MAF-75-3 (26), State Project No. 8.T150601, TIP R-2510A.  
DWQ Project No. 20050785 v.4

Dear Dr. Thorpe:

Attached hereto is a modification of Certification No. 3527 issued to The North Carolina Department of Transportation dated September 6, 2005, and modified January 24, 2007, and February 13, 2007. This modification is applicable only to the additional proposed activities in R-2510 section A. All the authorized activities and conditions, associated with the original Water Quality Certification dated September 6, 2005 and subsequent modifications still apply except where superceded by this certification.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Coleen H. Sullins  
Director

Attachments

cc: Wilmington District Corps of Engineers  
Mr. William Wescott, Corps of Engineers, Washington Field Office  
Kathy Matthews, US EPA, Region IV  
Mr. Jay Johnson, Division 2 Environmental Officer, PO Box 1587, Greenville, NC 27835  
Mr. Steven Sollod, NCDENR- DCM, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604  
Mr. Garcy Ward, NC DWQ, Washington Regional Office  
Central Files  
File Copy

**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Tar-Pamlico River Buffer Authorization, with Additional Conditions**

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0259. This certification authorizes the NCDOT to impact an additional 0.15 acres of jurisdictional wetlands, and an additional 1,608 square feet of protected riparian buffers in R-2510 section A in Beaufort County. The project shall be constructed pursuant to the modification dated received June 11, 2007. The authorized impacts are as described below:

**Wetland Impacts in the Tar-Pamlico River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
Original approved impacts at R-2510A, Site 6	1.0470	0	0	0.1639	0	1.2109
New additional impacts with this approval at R-2510A, Site 6	0	0	0	0	0.15	0.15
<b>Total</b>	<b>1.0470</b>	<b>0</b>	<b>0</b>	<b>0.1639</b>	<b>0.15</b>	<b>1.3609</b>

**Total Wetland Impacts for Site 6: 1.3609 acres.**

**Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 Impact (sq ft)	minus Wetlands in Zone 1 (sq ft)	= Zone 1 Buffers (not wetlands) (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	minus Wetlands in Zone 2 (sq ft)	= Zone 2 Buffers (not wetlands) (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
Original approved impacts at R-2510A, Site 6	2,165.1	853	1,312.1	3,936.3	1,383.8	0	1,383.8	2,075.7
New additional impacts with this approval at R-2510A, Site 6	606	0	606	0*	1,002	0	1,002	0*
<b>Totals</b>	<b>2,771.1</b>	<b>853</b>	<b>1,918.1</b>	<b>3,936.3</b>	<b>2,385.8</b>	<b>0</b>	<b>2385.8</b>	<b>2,075.7</b>

\* = no additional mitigation required [per 15A NCAC 2B .0259(6)] for overhead electric utility line relocation.

**Total Buffer Impacts for Site 6: 5,156.9 square feet.**

The application provides adequate assurance that the discharge of fill material into the waters of the Tar-Pamlico River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modified application dated received June 11, 2007. All the authorized activities and conditions associated with the original Water Quality Certification dated September 6, 2005 still apply except where superseded by this certification. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain



valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

**Condition(s) of Certification:**

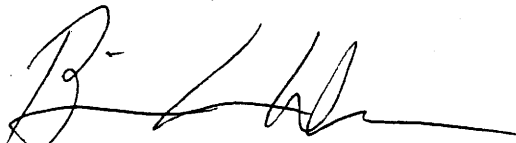
1. The only modifications to the design of the project authorized by this certification are those submitted in your application dated June 4, 2007 and received June 11, 2007. All authorized activities and conditions associated with the original Water Quality Certification dated September 6, 2005 and all other subsequent modifications still apply except where superceded by this certification.
2. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification.
3. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you, you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 9th day of July, 2007

DIVISION OF WATER QUALITY



Coleen H. Sullins  
Director

**\* Certification of Completion**

DWQ Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of Certification or Authorization: \_\_\_\_\_

**Certificate of Completion**

Upon completion of all work approved within the **401 Water Quality Certification and Buffer Rules**, and any subsequent modifications, the applicant is required to return this certificate to the 401 Oversight/Express Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

***Applicant's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Agent's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***If this project was designed by a Certified Professional***

I, \_\_\_\_\_, as a duly registered Professional \_\_\_\_\_ (i.e., Engineer, Landscape Architect, Surveyor, etc.) in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Registration No. \_\_\_\_\_ Date \_\_\_\_\_



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North Carolina Department of Environment and Natural Resources  
Division of Coastal Management

Michael F. Easley, Governor

Charles S. Jones, Director

William G. Ross Jr., Secretary

October 31, 2005

Gregory J. Thorpe, Ph.D.  
Environmental Manager Director  
Project Development and Environmental Analysis Branch  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

SUBJECT: **CD05-052** - Consistency Concurrence for Improvements to US 17 from South of SR 1127 to North of SR 1418 (Washington Bypass, TIP No. R-2510) in Beaufort County, NC (DCM #20050063)

Dear Dr. Thorpe:

The Division of Coastal Management (DCM) received on September 19, 2005 complete documentation supporting that the above referenced project would be consistent with the enforceable policies of North Carolina's coastal management program.

North Carolina's coastal management program consists of, but is not limited to, the Coastal Area Management Act, the State's Dredge and Fill Law, and the land use plan of the County and/or local municipality in which the proposed project is located. It is the objective of DCM to manage the State's coastal resources to ensure that proposed activities are compatible with safeguarding and perpetuating the biological, social, economic and aesthetic values of the State's coastal resources.

To solicit public comments, DCM published a public notice in the "*Washington Daily News*" on September 21, 2005 and circulated a description of the proposed project to State agencies that would have a regulatory interest in the proposed development. No comments were received asserting that the proposed project would be inconsistent with North Carolina's coastal management program.

In accordance with the supporting documentation accompanying NCDOT's Consistency Certification for this project, no CAMA Areas of Environmental Concern (AEC's) are to be impacted by the construction of the A section, R-2510A. However, the proposed R-2510B section impacts the Public Trust Area and Public Trust Shoreline CAMA AEC's where it crosses the Tar River. The proposed R-2510C section impacts the Public Trust Area and Public Trust Shoreline CAMA AEC's where it crosses Cherry Run and Old Ford Swamp. Prior to initiating any construction on the remaining segments of this project (R-

400 Commerce Avenue, Morehead City, North Carolina 28557-3421  
Phone: 252-808-2808 \ FAX: 252-247-3330 \ Internet: [www.nccoastalmanagement.net](http://www.nccoastalmanagement.net)

2510B and/or R-2510C), NCDOT must submit an application for and receive a CAMA Major Development Permit.

DCM has reviewed the consistency submission pursuant to the enforceable policies of North Carolina's coastal management program, including the management objectives of Section 15A NCAC 07M of North Carolina's Administrative Code. DCM concurs, as conditioned below, that the proposed project is consistent with the enforceable policies of North Carolina's coastal management program.

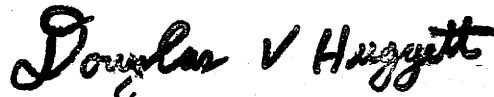
- In order to be found consistent with North Carolina's coastal management program, all work is to be performed in accordance with the 401 Water Quality Certification No. 3527, issued to the NC Department of Transportation (NCDOT) on September 6, 2005 (DWQ Project No. 050785) and Stormwater Permit No. SW7050509, which was issued on June 26, 2005.
- In order to be found consistent with North Carolina's coastal management program, compensatory mitigation for unavoidable impacts to 8.53 acres of riparian wetlands, 3.88 acres of non-riparian wetlands, and 4,244.4 linear feet of streams are to be provided by the NC Ecosystem Enhancement Program (EEP) in Hydrological Cataloging Unit 03020104, as outlined in the letter from the EEP dated August 4, 2005. Compensatory mitigation for impacts to 383,268.8 square feet of Tar-Pamlico Riparian Buffers shall be provided through an in-lieu fee payment to the EEP, in accordance to EEP's acceptance letter dated July 26, 2005.
- In order to be found consistent with North Carolina's coastal management program, there will be no in-water work between February 15 and June 15 of any year without prior approval of the NC Division of Water Quality and the NC Wildlife Resources Commission, in accordance with project commitments and the 401 Water Quality Certification, issued on September 6, 2005.
- In order to be found consistent with North Carolina's coastal management program, a CAMA Major Permit Application shall be submitted to DCM upon completion of final design plans for R-2510 Section B and/or Section C. No construction may begin in R-2510 Section B and/or Section C until a CAMA permit is issued or modified in accordance with the rules of the NC Coastal Resources Commission.

As a result of circulating the Consistency Certification to the agencies with regulatory interest in the proposed development, DCM received the following recommendation from the NC Division of Marine Fisheries (NCDMF):

- The Tar River is used as spawning and nursery area for Herring (Blueback and Alewife), Shad (American and Hickory), and Stripped Bass. The NCDMF requests that NCDOT take a risk avoidance approach to this project and impose an in-water moratorium from February through September to protect adult, egg, and larval stages of these migratory species. DCM encourages NCDOT to incorporate this recommendation into the proposed project.

Should the project be modified, a revised consistency certification could be necessary. This might take the form of either a supplemental consistency certification pursuant to 15 CFR 930.66, or a new consistency certification pursuant to 15 CFR 930.57. Likewise, if further project assessments reveal environmental impacts not previously considered by the proposed development, a supplemental consistency certification might be required. If you have any questions, please contact Steve Sollod at (919) 733-2293 x230 or via e-mail at [steve.sollod@ncmail.net](mailto:steve.sollod@ncmail.net). Thank you for your consideration of the North Carolina coastal management program.

Sincerely,



Doug Huggett  
Manager, Major Permits and Consistency Unit

cc: Bill Arrington, DCM  
Christina Breen, DWQ  
Bill Gilmore, EEP  
Terry Moore, DCM  
Stephen Rynas, DCM  
Steve Sollod, DCM  
Chris Underwood, NCDOT  
William Wescott, USACE



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**DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS**

P. O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

January 17, 2006

Regulatory Division

Action ID. 199301143; Tip Project No. R-2510A

Gregory J. Thorpe, Ph. D.  
Environmental Manager Director  
Project Development and Environmental Analysis Branch  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

In accordance with the written request of May 3, 2005, and the ensuing administrative record, enclosed is a permit to relocate and widen approximately 15 miles of US Highway 17 (Washington Bypass), starting from 0.5 mile south of Possum Track Road (NCSR 1127) south of Chocowinity, Beaufort County and ending 0.2 mile north of Roberson Road (NCSR 1418) north of Washington, Beaufort County, North Carolina.

If any change in the authorized work is required because of unforeseen or altered conditions or for any other reason, the plans revised to show the change must be sent promptly to this office. Such action is necessary, as revised plans must be reviewed and the permit modified.

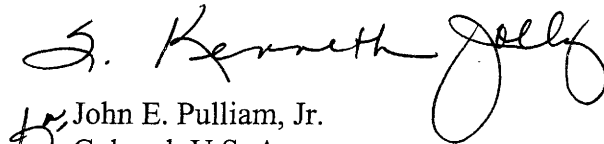
Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 2008.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

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If you have questions, please contact Mr. William Wescott at the Washington Regulatory Field Office, telephone 252-975-1616, extension 31.

Sincerely,

  
John E. Pulliam, Jr.  
Colonel, U.S. Army  
District Engineer

Enclosures

Copy Furnished with enclosures:

Chief, Source Data Unit  
NOAA/National Ocean Service  
ATTN: Sharon Tear N/CS261  
1315 East-West Hwy., Rm 7316  
Silver Spring, MD 20910-3282

Copies Furnished with special conditions and plans:

Mr. Pete Benjamin, Field Supervisor  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Ron Sechler  
National Marine Fisheries  
Service, NOAA  
Pivers Island  
Beaufort, North Carolina 28516

Mr. David Rackley  
National Marine Fisheries  
Service, NOAA  
219 Fort Johnson Road  
Charleston, South Carolina 29412-9110



IN REPLY REFER TO

124  
**DEPARTMENT OF THE ARMY**  
**WILMINGTON DISTRICT, CORPS OF ENGINEERS**  
Washington Regulatory Field Office  
P.O. Box 1000  
Washington, North Carolina 27889-1000  
**July 13, 2007**

**RECEIVED**  
  
JUL 19 2007  
  
DIVISION OF HIGHWAYS  
PDEA-OFFICE OF NATURAL ENVIRONMENT

**Regulatory Division**

**ORM ID SAW-199301143**

Dr. Gregory J. Thorpe, Ph. D.  
Environmental Manager Director  
Project Development and Environmental Analysis Branch  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Reference the Department of the Army permit issued to you on January 17, 2006, for Section A and January 17, 2007, for Section B of the U.S. Highway 17 Washington Bypass project (R-2510), starting from 0.5 mile south of Possum Track Road (NCSR 1127) south of Chocowinity, in Beaufort County and ending at US 17 north of SR 1509 (Springs Road), and your written request of June 4, 2007, for permit modification to Section A and your written requests of June 4, 2007 and July 2, 2007, for permit modification to Section B. The permit modification requests are as follows:

Section A	Sheets 9 & 10	0.15 acres of additional hand clearing for powerline
Section B	Site 4	0.05 acres of additional permanent wetland impacts
Section B	Site 6	0.32 acres of additional hand clearing on south end
Section B	Site 6	0.08 acres of additional hand clearing on north end
Section B	Site 6	Temporary use of mats in wetlands

The permit is hereby modified to include the work as indicated above and shown on the enclosed plans. It is understood that all conditions of the original permit remain applicable and that the expiration date is unchanged.

Sincerely,

David M. Lekson, P.W.S.  
Chief, Washington Regulatory Field Office

Enclosures



Copies Furnished (without enclosures):

Mr. Steve Sollod  
Division of Coastal Management  
1638 Mail Service Center  
Raleigh, North Carolina 27699-16387

Mr. John Hennessy  
Water Quality Section  
Division of Environmental Management  
North Carolina Department of Environment  
and Natural Resources  
1650 Mail Service Center  
Raleigh, North Carolina 27699-1650

Mr. Travis Wilson  
Eastern Region Highway Project Coordinator  
Habitat Conservation Program  
1142 I-85 Service Road  
Creedmoor, North Carolina 27522

Mr. Pete Benjamin  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Ron Sechler  
National Marine Fisheries Service  
101 Pivers Island  
Beaufort, North Carolina 28516

Mr. Chris Militscher  
C/O FHWA  
U.S. Environmental Protection Agency  
Raleigh Office  
310 New Bern Avenue, Room 206  
Raleigh, North Carolina 27601

## DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation, Gregory J. Thorpe, Ph.D.**

Permit No. **199301143**

Issuing Office **CESAW-RG-W**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

**Project Description: Widen and relocate approximately 15 miles of US Highway 17. The proposed roadway will be a four-lane, divided highway, with grass shoulders and ditches, and a 46-foot wide grassed median. The median will be reduced to a 10-foot median divided by a barrier on the four-lane freeway bridge that will span the Tar River and the frequently inundated forested wetlands adjacent to the Tar River.**

**Project Location: The proposed highway widening and relocation will extend approximately 15 miles, starting from 0.5 mile south of Possum Track Road (NCSR 1127) south of Chocowinity, in Beaufort County and ending 0.2 mile north of Roberson Road (NCSR 1418) north of Washington, in Beaufort County, North Carolina.**

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2008**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

**SEE ATTACHED SPECIAL CONDITIONS**

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
  - ( X ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
  - ( X ) Section 404 of the Clean Water Act (33 U.S.C. 1344).
  - ( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
  - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.



**SPECIAL CONDITIONS (Action ID. 199301143; NCDOT/TIP R-2510)**

COMPLIANCE WITH PLANS

- a) This authorization is only for Section R-2510-A. Construction on sections R-2510-B and R-2510-C shall not commence until final design has been completed and plans have been approved by the District Engineer.
- b) All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation.

ACTIVITIES NOT AUTHORIZED

- c) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

This permit does not authorize temporary placement or double handling of excavated or fill material within jurisdictional waters, including wetlands, outside the permitted area. Additionally, no construction materials or equipment will be placed or stored within jurisdictional waters, including wetlands.

CONSTRUCTION PLANS

- \* d) The permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Washington Regulatory Field Office prior to any active construction in waters or wetlands.
- \* e) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

#### POLLUTION SPILLS

f) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

#### NOTIFICATION

g) The permittee shall advise the Corps in writing at least two weeks prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

#### CLEAN FILL MATERIAL

h) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

#### IN-WATER MORATORIUM

i) A construction moratorium for anadromous fish from February 15 through June 15 will be adhered to for in-water work.

#### SECTION 7 ESA CONSULTATION

\* j) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the permittee shall conduct another survey for the federally threatened sensitive joint-vetch (*Aeschynomene virginica*) during its flowering season (mid July –October). Results of that survey shall be forwarded to USFWS for review. The USFWS shall submit their findings in writing to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager.

#### CONTRACTOR COMPLIANCE

k) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and

any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

#### SEDIMENTATION AND EROSION CONTROL MEASURES

l) The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of nonerodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

#### REPORTING OF VIOLATIONS

m) The permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act in writing to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager, within 24 hours of the permittee's discovery of the violation.

#### COMPLIANCE WITH SPECIAL CONDITIONS

n) Failure to institute and carry out the details of these special conditions, will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.

#### WET CONCRETE

o) The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.

#### CULVERTS

p) All authorized culverts will be installed to allow the passage of low stream flows and the continued movement of fish and other aquatic life as well as to prevent headcutting of the streambed. For all box culverts and for pipes greater than 48 inches in diameter, the bottom of the pipe will be buried at least one foot below the bed of the stream unless burial would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, the bottom of the pipe must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to, upstream or downstream of the structures. In order to allow for the continued movement of bed load and aquatic organisms, existing stream channel widths and depths will be maintained at the inlet and outlet ends of culverts. Riprap armoring of streams at culvert inlets and outlets shall be minimized above the ordinary high water elevation in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted, woody plants.

#### PRECONSTRUCTION MEETING

\* q) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall provide the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the preconstruction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall invite the Corps and NCDWQ



Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

#### BORROW AND WASTE

r) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland boundaries on borrow and waste sites shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with Special Condition b) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the Special Condition b). All information will be available to the Corps of Engineers upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

#### EEP MITIGATION

\*s) Compensatory mitigation for the unavoidable impacts to 8.53 acres of riverine wetlands, 3.88 acres of non-riverine wetlands, and 4,244 linear feet of perennial stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated August 4, 2005 from William D. Gilmore, EEP Director. The EEP will provide the compensatory mitigation as follows:

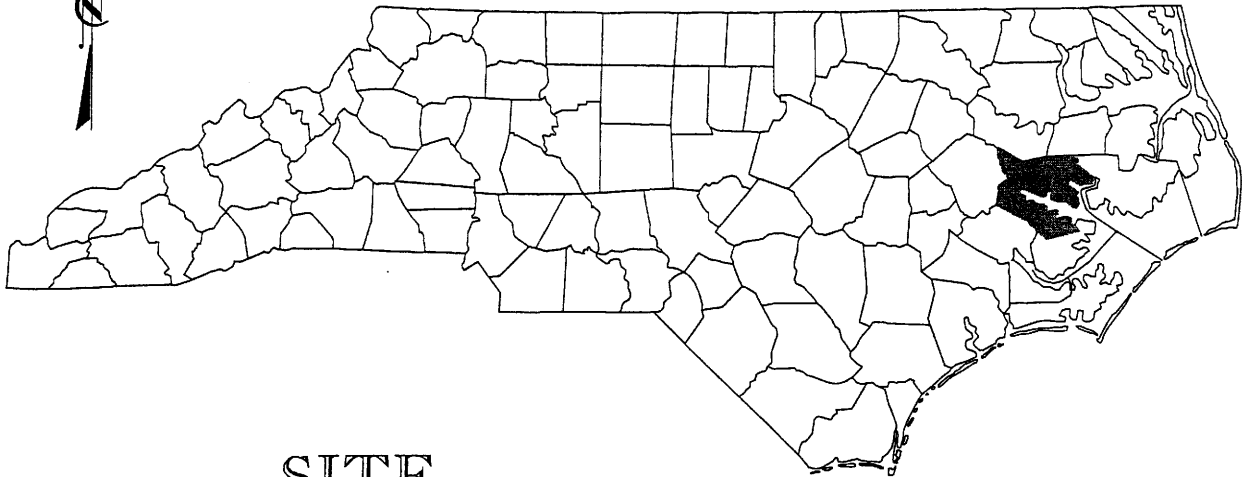
Lower Tar-Pamlico River, CU 03020104 (17.06 acre riverine; 7.76 acres non-riverine; and 8,488 feet of stream):

In order to compensate for impacts to 4,244 linear feet of warm-water stream, 8.53 acres of Riverine wetlands (Cypres-Gum swamp), and 3.88 acres of Non-Riverine wetlands, the permittee shall make payment to the North Carolina Ecosystem Enhancement Program (NC EEP) in the amount determined by the NC EEP, sufficient to perform the restoration of 8,488 linear feet of warm water stream, 17.06 acres of Riparian (Riverine) Wetlands, and 7.76 acres of non-Riparian (non-Riverine) wetlands in the Tar-Pamlico River Basin, Cataloging Unit 03020104).

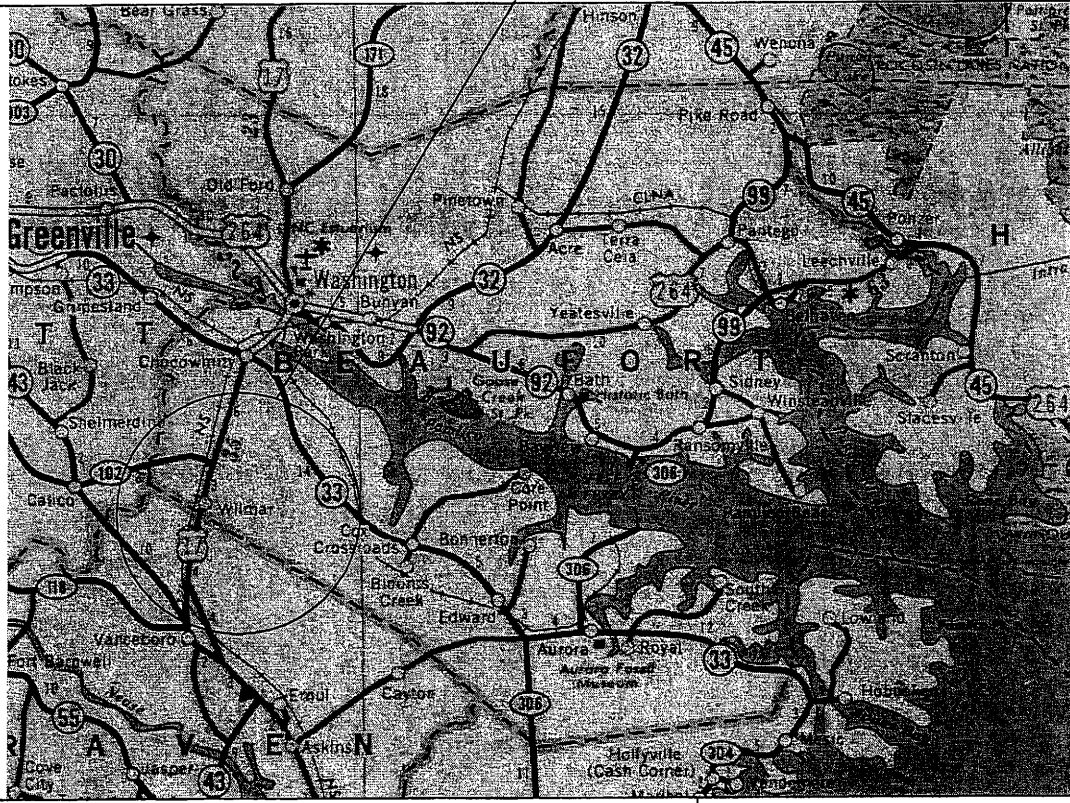
Construction within jurisdictional areas on the property shall begin only after the permittee has made full payment to the NC EEP and provided a copy of the payment documentation to the Corps, and the NC EEP has provided written confirmation to the Corps that it agrees to accept responsibility for the mitigation work required, in compliance with the MOU between the North Carolina Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District, dated November 4, 1998.

135

# NORTH CAROLINA



SITE



## VICINITY MAP

**NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS**

BEAUFORT COUNTY  
34440.II (R-25IOA)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

DATE: AUG-04

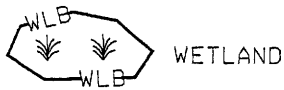
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# 137 BUFFER LEGEND

— WLB — WETLAND BOUNDARY



ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

— BZ — RIPARIAN BUFFER ZONE

— BZ1 — RIPARIAN BUFFER ZONE 1  
30 ft (9.2m)

— BZ2 — RIPARIAN BUFFER ZONE 2  
20 ft (6.1m)

→ — FLOW DIRECTION

— TB — TOP OF BANK

— WE — EDGE OF WATER

— C — PROP. LIMIT OF CUT

— F — PROP. LIMIT OF FILL

▲ — PROP. RIGHT OF WAY

— NG — NATURAL GROUND

— PL — PROPERTY LINE

— TDE — TEMP. DRAINAGE EASEMENT

— PDE — PERMANENT DRAINAGE EASEMENT

— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY

— EPB — EXIST. ENDANGERED PLANT BOUNDARY

— ∇ — WATER SURFACE

LIVE STAKES

BOULDER

— — — CORE FIBER ROLLS

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT  
12"-48" PIPES  
54" PIPES & ABOVE

(DASHED LINES DENOTE EXISTING STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

RIP RAP

ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

PREFORMED SCOUR HOLE (PSH)

LEVEL SPREADER (LS)

GRASS SWALE



NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
34440.LI(R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

DATE: AUG-04

SHEET \_\_\_\_ OF \_\_\_\_

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## SUMMARY OF AFFECTED PROPERTY OWNERS BUFFER SITES

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(12)	TERRY D. ANDREWS	8059 US HWY 17 S CHOCOWINITY NC, 27817	1
(13)	J.M. HILL, et ux	3509 TRENT RD. NEW BERN NC, 28560	1
(60)	MICHAEL MIZELL, et ux	6219 US HWY 17 S CHOCOWINITY NC, 27817	2
(62)	BOBBY GENE WEATHINGTON	PO BOX 921 CHOCOWINITY NC, 27817	2
(68)	ROY MITCHELL CLARK, et ux	7450 PITT ST. GRIMESLAND NC, 27837	3
(71)	BETSY ROSE HADDOCK	6025 US HWY 17 S CHOCOWINITY NC, 27817	3
(87)	EDWARD A. BUCK, et ux	?	4
(95)	CHARLES L. TOLER, JR.	PO BOX 398 CHOCOWINITY NC, 27817	4
(97)	SALLIE BLOUNT TOLER	5613 US HWY 17 S CHOCOWINITY NC, 27817	4
(108)	A. FRANK RESPESS	4918 US HWY 17 S CHOCOWINITY NC, 27817	5
(109)	MARVIN J. HARRIS FAMILY TRUST	PO BOX 1747 WASHINGTON NC, 27889	5
(107)	JASON C. SHEPPARD	PO BOX 1902 WASHINGTON NC, 27889	5
(110)	SCOTT ROBERT BATEMAN, et ux	4892 US HWY 17 S CHOCOWINITY NC, 27817	5
(118)	RICHARD D. PEED, JR., et ux	410 TRANTERS CREEK DR. WASHINGTON NC, 27889	6

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NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
34440.II (R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

DATE: AUG-04

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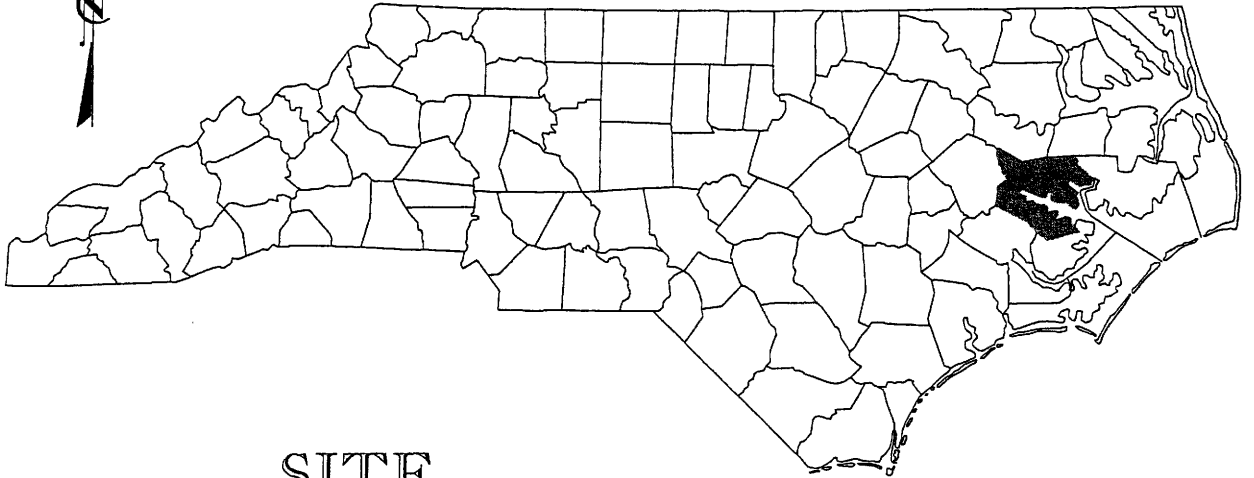




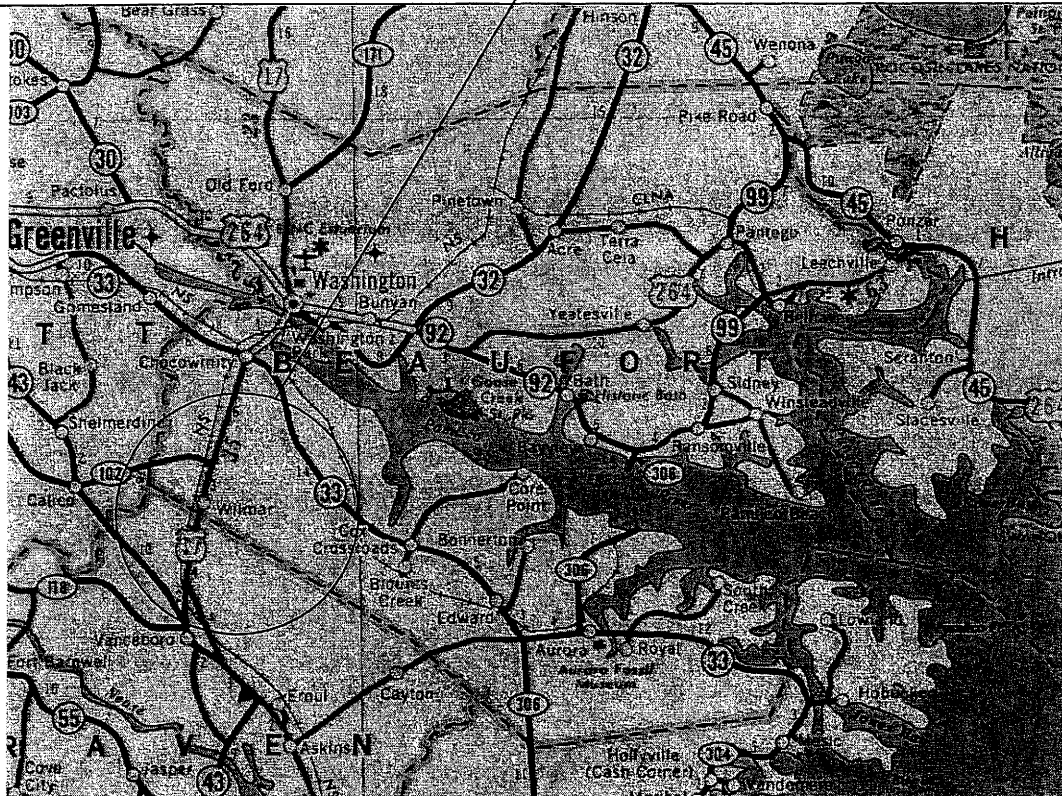


141

# NORTH CAROLINA



SITE



## VICINITY MAP

NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
34440.J.I.(R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

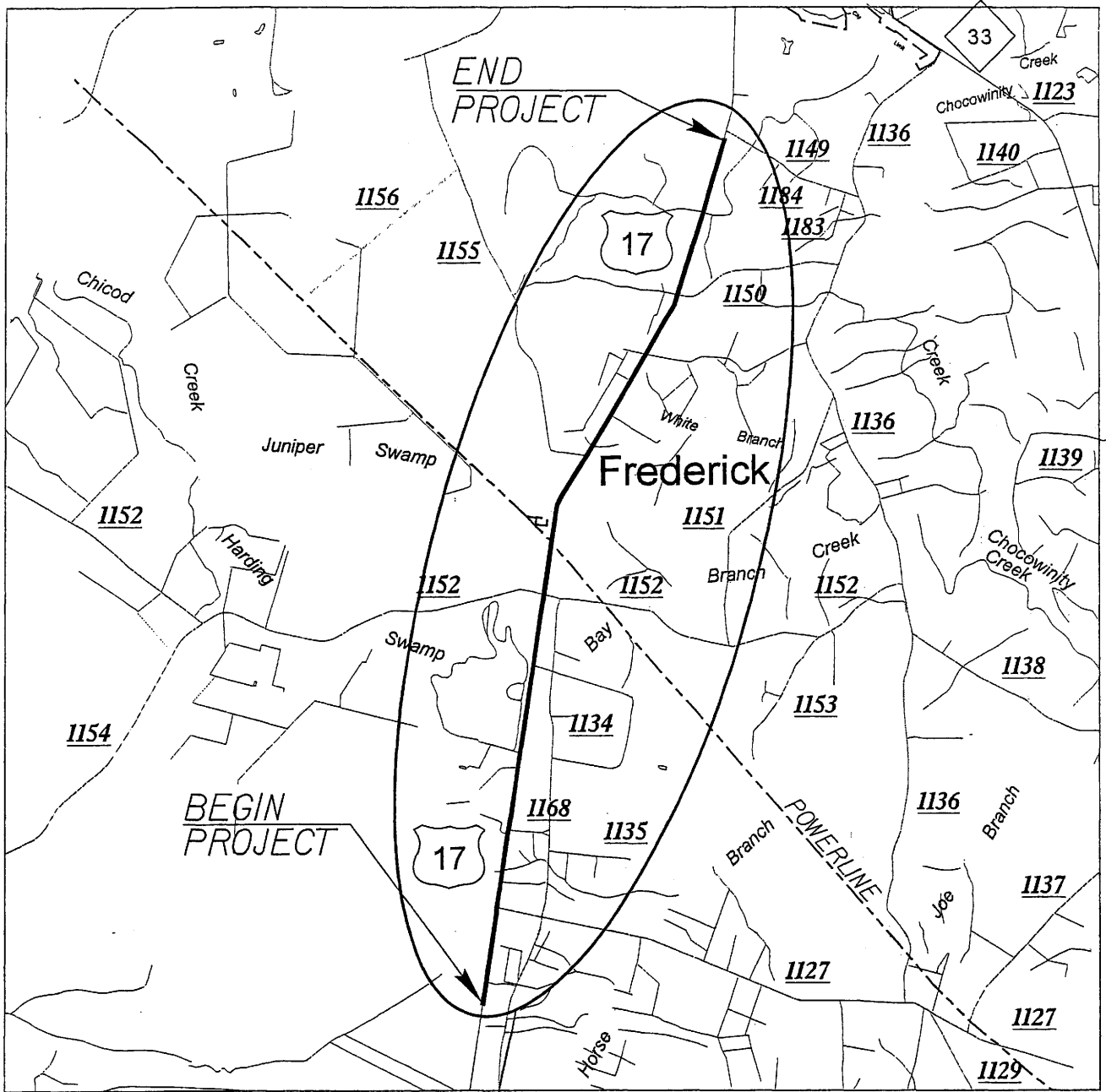
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SHEET 1 OF 6

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142

# WETLAND SITE MAP



SITE

NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
34440.LI (R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE




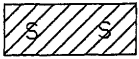
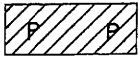

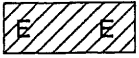
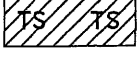


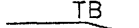
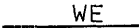
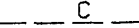
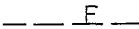

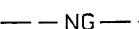
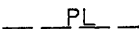

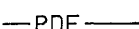



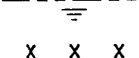
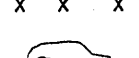

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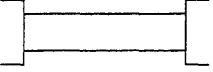
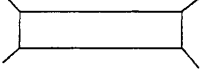

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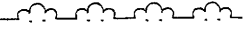
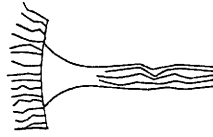
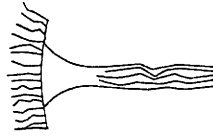



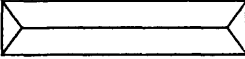
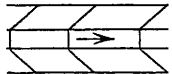


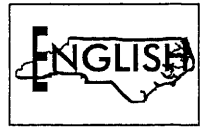
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# WETLAND LEGEND

-  WLB WETLAND BOUNDARY
-  WLB WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES FILL IN SURFACE WATER
-  DENOTES FILL IN SURFACE WATER (POND)
-  DENOTES TEMPORARY FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES TEMPORARY FILL IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING
-  FLOW DIRECTION
-  TB TOP OF BANK
-  WE EDGE OF WATER
-  C PROP. LIMIT OF CUT
-  F PROP. LIMIT OF FILL
-  PROP. RIGHT OF WAY
-  NG NATURAL GROUND
-  PL PROPERTY LINE
-  TDE TEMP. DRAINAGE EASEMENT
-  PDE PERMANENT DRAINAGE EASEMENT
-  EAB EXIST. ENDANGERED ANIMAL BOUNDARY
-  EPB EXIST. ENDANGERED PLANT BOUNDARY
-  WATER SURFACE
-  LIVE STAKES
-  BOULDER
-  CORE FIBER ROLLS

-  PROPOSED BRIDGE
  -  PROPOSED BOX CULVERT
  -  PROPOSED PIPE CULVERT
- (DASHED LINES DENOTE EXISTING STRUCTURES)
- 12"-48" PIPES  
54" PIPES & ABOVE

-  SINGLE TREE
-  WOODS LINE
-  DRAINAGE INLET
-  ROOTWAD
-  RIP RAP
-  ADJACENT PROPERTY OWNER OR PARCEL NUMBER (IF AVAILABLE)
-  PREFORMED SCOUR HOLE
-  LEVEL SPREADER (LS)
-  DITCH / GRASS SWALE



**NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS**

BEAUFORT COUNTY  
34440.LI(R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

DATE: AUG-04

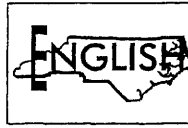
SHEET 3 OF 6

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# 144 SUMMARY OF AFFECTED PROPERTY OWNERS WETLAND SITES

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(1)	JOHN JAY WALTON	2314 NC 33 CHOCOWINITY NC, 27817	1
(4)	REBECCA S. DAY	QUARTERDECK #13 RIVERBEND NEW BERN NC, 28562	1
(5)	JAMES A. POLLARD, et ux	1255 WARES CHAPEL LN. WASHINGTON NC, 27889	2
(12)	TERRY D. ANDREWS	8059 US HWY 17 S CHOCOWINITY NC, 27817	3
(13)	J.M. HILL, et ux	3509 TRENT RD. NEW BERN NC, 28560	3,4
(28)	D.H. BRIGHT	?	6
(32)	MAUDE ELIZABETH WHITEHURST	6851 US HWY 17 S CHOCOWINITY NC, 27817	8
(48)	J.J. COOK, et ux	236 E. MAIN ST. WASHINGTON NC, 27889	10
(60)	MICHAEL MIZELL, et ux	6219 US HWY 17 S CHOCOWINITY NC, 27817	12
(62)	BOBBY GENE WEATHINGTON	PO BOX 921 CHOCOWINITY NC, 27817	12
(70)	DANNY SMITH	PO BOX 623 CHOCOWINITY NC, 27817	13
(68)	ROY MITCHELL CLARK, et ux	7450 PITT ST. GRIMESLAND NC, 27837	13
(71)	BETSY ROSE HADDOCK	6025 US HWY 17 S CHOCOWINITY NC, 27817	13

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**NORTH CAROLINA  
DEPARTMENT OF HIGHWAYS**

BEAUFORT COUNTY  
34440.LI (R-2510A)

US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

NOT TO SCALE

DATE: AUG-04

SHEET 4 OF 6

# SUMMARY OF AFFECTED PROPERTY OWNERS WETLAND SITES

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(69)	CARRIE M. TURNER, et ux	1014 VAN NORDEN ST. WASHINGTON NC, 27889	13
(97)	SALLIE BLOUNT TOLER	5613 US HWY 17 S CHOCOWINITY NC, 27817	14
(107)	JASON C. SHEPPARD	PO BOX 1902 CHOCOWINITY NC, 27889	15
(110)	SCOTT ROBERT BATEMAN, et ux	4829 US HWY 17 S CHOCOWINITY NC, 27817	15,16
(109)	MARVIN J. HARRIS FAMILY TRUST	PO BOX 1747 WASHINGTON NC, 27889	15
(108)	A. FRANK RESPESS	4918 US HWY 17 S CHOCOWINITY NC, 27817	15
(118)	RICHARD D. PEED, JR., et ux	410 TRANTERS CREEK DR. WASHINGTON NC, 27889	17
	NORFOLK SOUTHERN RAILROAD		3,5,7,9,11
(98)	C. DOUGLAS BRANCH, et ux	5614 US HWY 17 S CHOCOWINITY NC, 27817	14

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**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
  
 BEAUFORT COUNTY  
 34440.11 (R-2510A)  
  
 US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
 TO SR 1149 (PRICE ROAD)  
  
 NOT TO SCALE  
  
 DATE: AUG-04 SHEET 5 OF 6

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS						
			Fill In Wetlands (Ac)	Temp. Fill In Wetlands (Ac)	Excavation In Wetlands (Ac)	Mechanized Clearing (Method III) (Ac)	Fill In SW (Natural) (Ac)	Fill In SW (Pond) (Ac)	Temp. Fill In SW (Ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)		
1	29+50 Rt		0.0784		0.0441	0.0142							
2	33+50 Rt				0.0214	0.0238							
3	57+50	66" RCP	0.0108		0.0072	0.0058	0.0105		0.0061				
4	63+50 to 67+00 Rt		0.3014		0.3302	0.1425						113	
5	85+00 to 90+20 Lt		0.0304		0.0877	0.0676							
6	86+10 to 93+60 Rt		1.0470			0.1639							
7	103+15 to 105+20 Lt		0.1491			0.0051							
8	107+20 to 110+20 Rt		0.2530		0.0128	0.0646							
9	117+15 to 120+50 Lt		0.1186		0.0873	0.0276							
10	132+00 to 134+60 Rt		0.4161		0.1659	0.0655							
11	136+90 to 138+20 Lt				0.0359	0.0079							
12	155+20 Rt	30" RCP	0.0171				0.0140	0.0019	0.0036	88			
13	162+35	24" RCP					0.0087	0.0036	0.0036	52			
14	185+82	24" RCP					0.0119	0.0080	0.0080	122			
15	223+50 to 225+30	2@ 8 ft x 7 ft	0.1766		0.0154	0.0789	0.0219	0.0310	0.0310	103			
16	230+40 to 234+00 Rt		0.2049			0.0475							
17	241+30 to 241+65 Rt		0.0047		0.0093	0.0055							
TOTALS:			2.8080	0.0000	0.8171	0.7204	0.0670	0.0000	0.0506	478			0

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

BEAUFORT COUNTY  
PROJECT: 34440.1.1 (R-2510A)

4/20/2005  
SHEET 6 OF 6

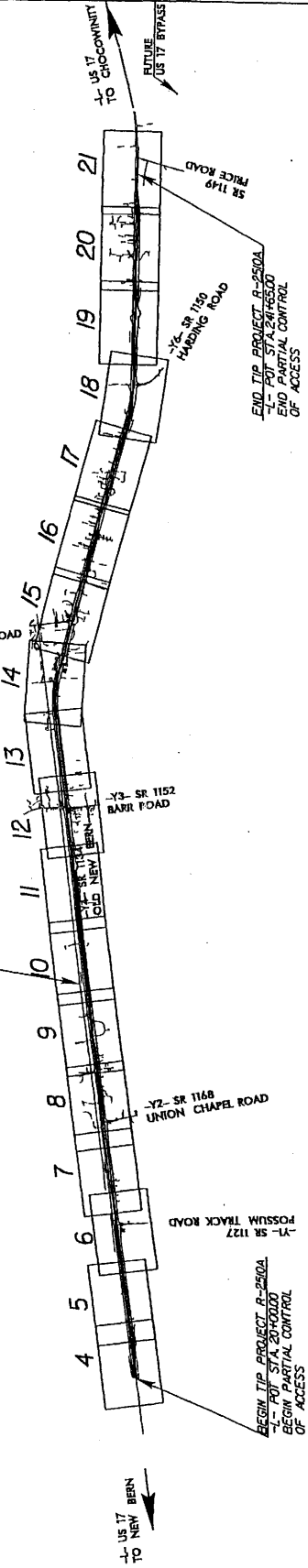
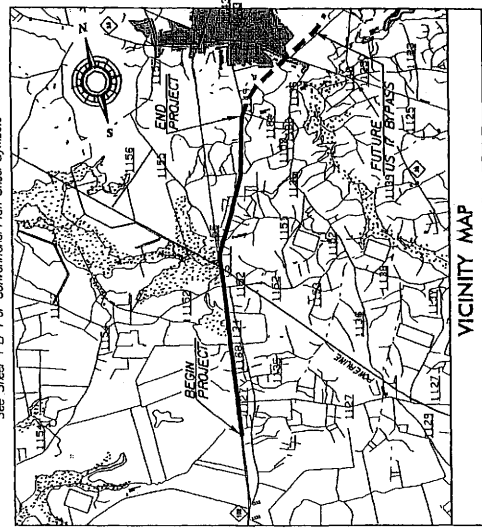
STATE	N.C.	PROJECT NUMBER	R-2510A	SHEET NO.	1	TOTAL SHEETS	1
COUNTY	BEAUFORT	DATE	MAR-75-316(6)	DESIGNER	PE		
DISTRICT	34440(1)	DATE		APPROVED			

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**BEAUFORT COUNTY**

LOCATION: US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

**Utility Plans**



NOTES: THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. CLEANING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III OR TO R/W WHEN INDICATED ON PLANS.

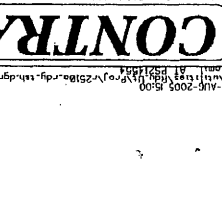
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA	PRELIMINARY PLANS
DESIGN ENGINEER	DESIGN ENGINEER
ROADWAY DESIGN ENGINEER	ROADWAY DESIGN ENGINEER
PROJECT NUMBER	PROJECT NUMBER
DATE	DATE

HYDRAULICS ENGINEER	DATE
PROJECT NUMBER	PROJECT NUMBER
DATE	DATE

Prepared in the Office of <b>Carter Burgess</b> Engineers & Architects, Inc. 1000 North Salisbury Street, Suite 200 Salisbury, North Carolina 28134	DESIGNED BY R. DONALD HURLBUT, PE ROADWAY DESIGN ENGINEER
DATE OF WAY DATE MARCH 18, 2005	LETTING DATE DECEMBER 19, 2005
PROJECT NUMBER R-2510A	PROJECT NUMBER R-2510A
DATE MARCH 18, 2005	DATE DECEMBER 19, 2005
PROJECT NUMBER R-2510A	PROJECT NUMBER R-2510A
DATE MARCH 18, 2005	DATE DECEMBER 19, 2005

PROJECT LENGTH	LENGTH ROADWAY TIP PROJECT R-2510A = 4.198 MI
TOTAL LENGTH OF TIP PROJECT R-2510A = 4.198 MI	

DESIGN DATA	ADT 2006 = 10200 VPD
ADT 2026 = 17000 VPD	
DRY = 12 %	
D = 60 %	
T = 12 %	
V = 60 MPH	
* T1ST 7% DUAL 5%	



**R-2510A**

**CONTRACT:**



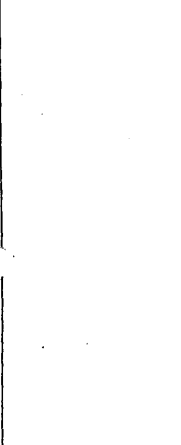


PROJECT REFERENCE NO. R-2510A  
 DRAWING NO. NAD B395  
 ROADWAY DESIGN NUMBER  
 SHEET NO. 7

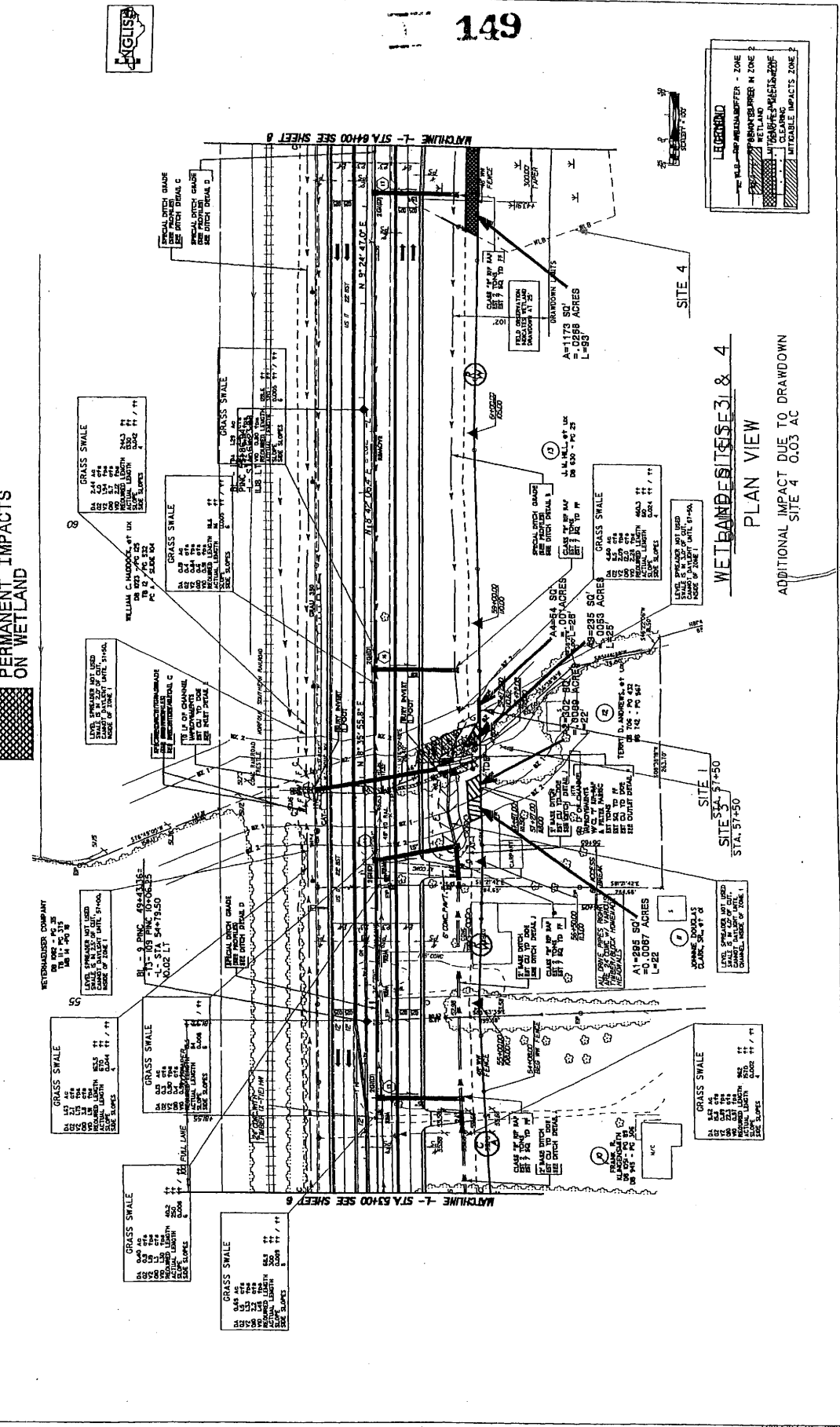
SEE SHEET 28 FOR 1 - PROFILE  
 SEE SHEET 29 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16' WIDE WITH  
 10' RADI UNLESS OTHERWISE NOTED

NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' ABC UNLESS OTHERWISE NOTED

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND



WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC



LEGEND  
 PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

149

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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 PERMANENT IMPACTS ON WETLAND

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WETLANDS SECTIONS 3 & 4  
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 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

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WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND

WETLANDS SECTIONS 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAINAGE SITE 4 0.03 AC

PERMANENT IMPACTS ZONE 1  
 PERMANENT IMPACTS ZONE 2  
 PERMANENT IMPACTS ON WETLAND



PROJECT REFERENCE NO. R-2510A  
 DRAWING NO. 151  
 ROADWAY DESIGN NUMBER

DATE: 11/11/08

Permit Drawing  
 Sheet \_\_\_\_\_ of \_\_\_\_\_

**Carter Burgess**  
 CONSULTING ENGINEERS  
 1101 SCHOLAR DRIVE, SUITE 200  
 RALEIGH, NC 27606

**KO & ASSOCIATES, P.C.**  
 Consulting Engineers  
 1101 SCHOLAR DRIVE, SUITE 200  
 RALEIGH, NC 27606

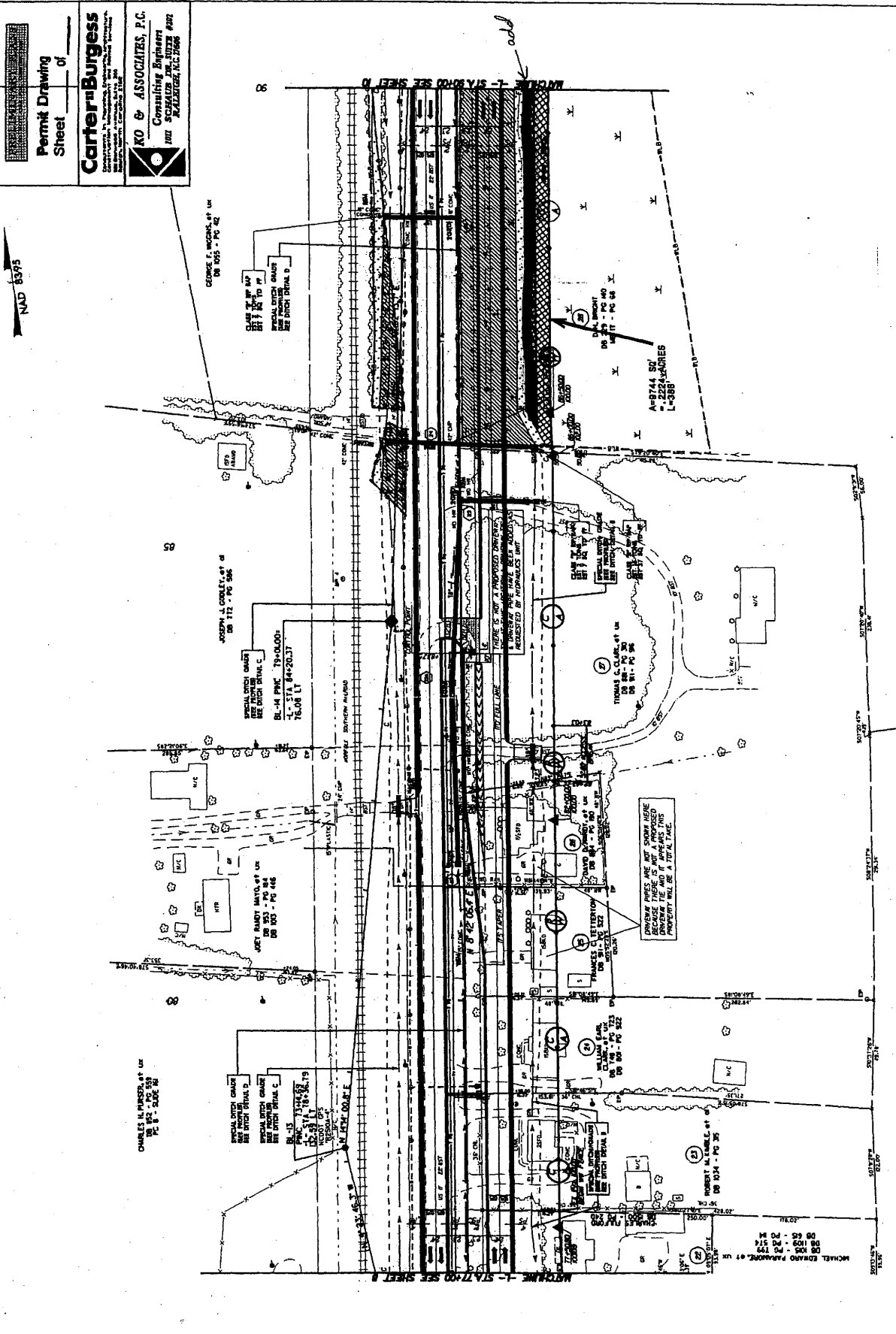
NOTE: ALL DRIVEWAY CONNECTIONS ARE & ABC UNLESS OTHERWISE NOTED

SEE SHEET 25 FOR L-L PROFILE  
 SEE SHEET 26 FOR DITCH DETAILS  
 SEE SHEET 27 FOR DRIVEWAY DETAILS  
 SEE SHEET 28 FOR DRIVEWAY DETAILS  
 SEE SHEET 29 FOR DRIVEWAY DETAILS  
 SEE SHEET 30 FOR DRIVEWAY DETAILS  
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 SEE SHEET 99 FOR DRIVEWAY DETAILS  
 SEE SHEET 100 FOR DRIVEWAY DETAILS

NOTE: ALL DRIVEWAY CONNECTIONS ARE & ABC UNLESS OTHERWISE NOTED

NOTE: ALL DRIVEWAY CONNECTIONS ARE & ABC UNLESS OTHERWISE NOTED

NOTE: ALL DRIVEWAY CONNECTIONS ARE & ABC UNLESS OTHERWISE NOTED



SEE SHEET 25 FOR L-L PROFILE  
 SEE SHEET 26 FOR DITCH DETAILS  
 SEE SHEET 27 FOR DRIVEWAY DETAILS  
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 SEE SHEET 100 FOR DRIVEWAY DETAILS



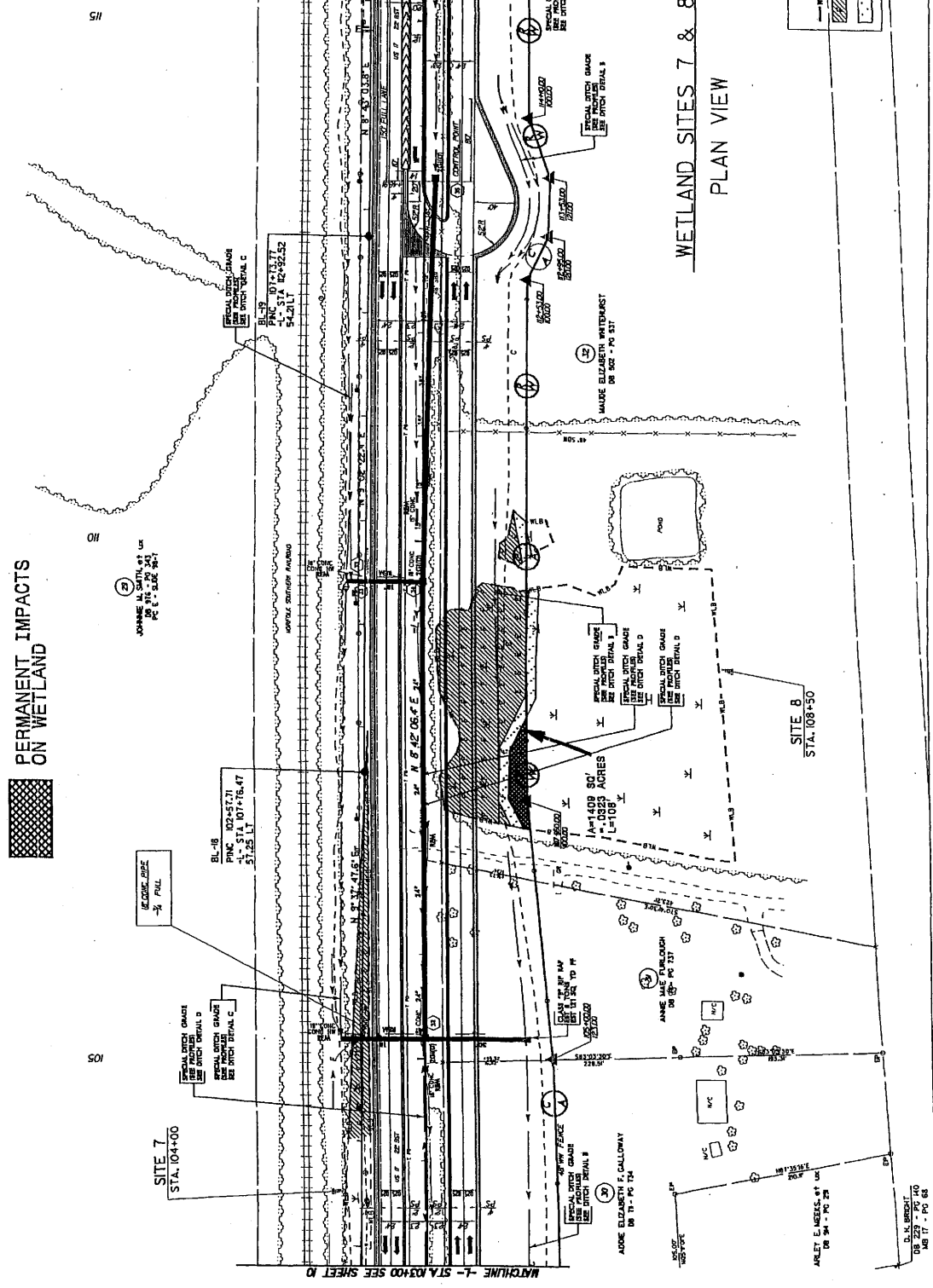
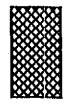
PROJECT REFERENCE NO.	R-250A
AW SHEET NO.	11
ROW SHEET NO.	
ROW NUMBER	
PROFESSIONAL ENGINEER	
STATE LICENSE NO.	
EXPIRES	



NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' ABC UNLESS OTHERWISE NOTED

SEE SHEET 26 FOR 'L' PROFILE SEE SHEET 2C FOR DITCH DETAILS ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADI UNLESS OTHERWISE NOTED

PERMANENT IMPACTS ON WETLAND



LEGEND

(Hatched pattern)	WETLAND
(Dotted pattern)	DEMOTES FILL IN WETLAND
(Cross-hatched pattern)	DEMOTES MECHANIZED CLEARING

WETLAND SITES 7 & 8  
PLAN VIEW









PROJECT REFERENCE NO. 20  
 SHEET NO. 20  
 ROADWAY DESIGN  
 THUNDER  
 PRELIMINARY PLANS

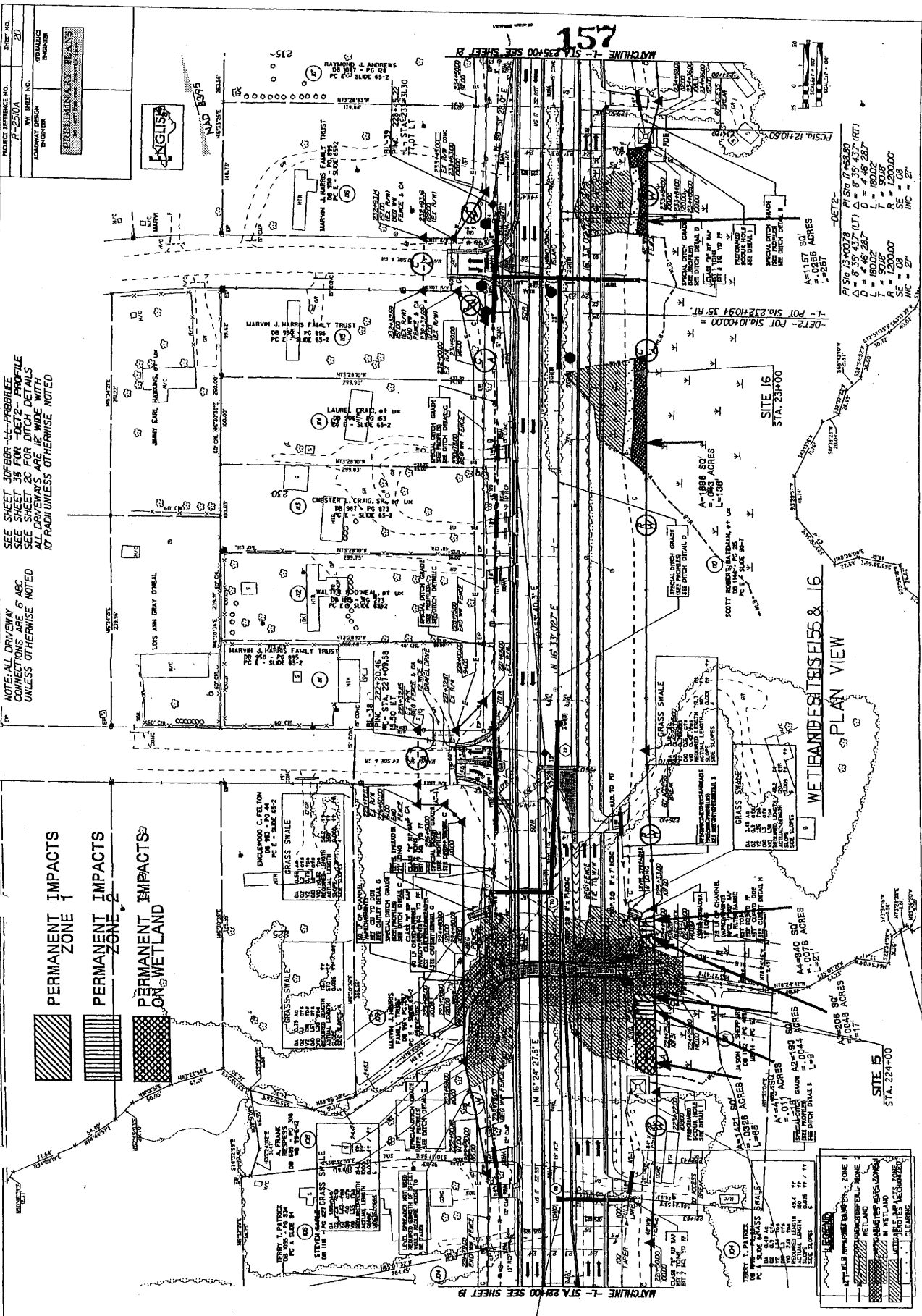
NOTE: ALL DRIVEWAY  
 CONDITIONS ARE AS SHOWN  
 UNLESS OTHERWISE NOTED

SEE SHEET 15 FOR POSITIVE  
 SLOPES FOR ALL DRIVEWAYS  
 SEE SHEET 20 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16 WIDE WITH  
 10' RADI UNLESS OTHERWISE NOTED

PERMANENT IMPACTS  
 ZONE 1

PERMANENT IMPACTS  
 ZONE 2

PERMANENT IMPACTS  
 ZONE 3  
 WETLAND



DETAILED DATA FOR SITE 15:  
 PLSig 13+00.78 PLSig 17+58.30  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 16:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 17:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 18:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 19:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 20:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 21:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 22:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 23:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'

DETAILED DATA FOR SITE 24:  
 PLSig 10+00.00 PLSig 10+00.00  
 Δ = 8' 35" 437' (LT) Δ = 8' 35" 437' (RT)  
 D = 180.02' D = 180.02' 287'  
 T = 90.01° T = 90.01°  
 R = 1200.00' R = 1200.00'  
 SE = 0° SE = 0°  
 INC = 0' INC = 0'



STATE	N.C.	PROJECT NUMBER	R-2510A	SHEET	1
COUNTY	BEAUFORT	DATE	11/11/06	SCALE	AS SHOWN
DISTRICT	34440.1.1	DESIGNER	MAF-75-3126	APPROVED	PE

# R-2510A: BUFFER SITE MAP

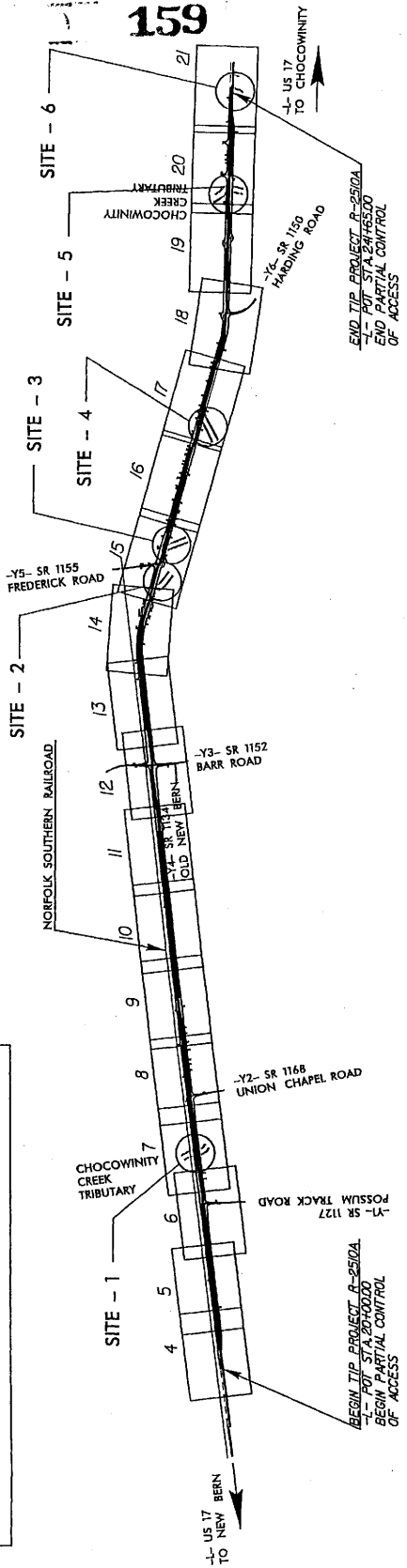
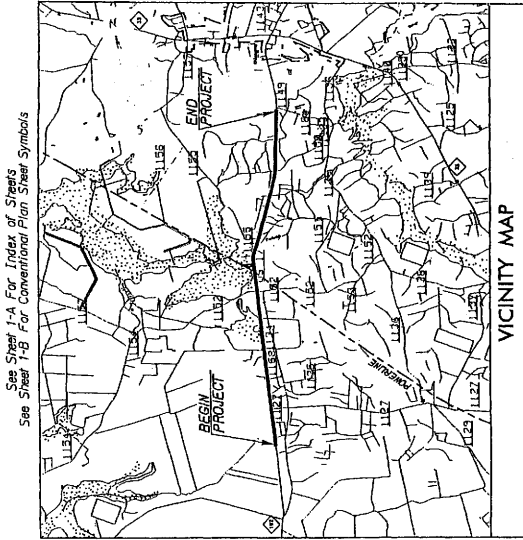
PREPARED BY: KO & ASSOCIATES, PC; RALEIGH, NC

## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS **BEAUFORT COUNTY**

LOCATION: US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

# R-2510A: BUFFER SITE MAP



NOTES: THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_\_

**GRAPHIC SCALES**

50 25 0 50 100  
PLANS

50 25 0 50 100  
PROFILE (HORIZONTAL)

10 5 0 10 20  
PROFILE (VERTICAL)

**DESIGN DATA**

ADT 2006 = 10200 VPD  
ADT 2026 = 17000 VPD  
DHW = 12 %  
D = 60 %  
T = 12 % \*  
V = 60 MPH  
\* TTST 7% DUAL 5%

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT R-2510A = 4.387 MI  
TOTAL LENGTH OF TIP PROJECT R-2510A = 4.837 MI

Prepared in the Office of  
**Carter Burgess**  
Consulting Engineers, Inc., 1000 North Salisbury Street, Salisbury, NC 28156  
Professional Seal: No. 174, 200

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
S.W. STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: DECEMBER 17, 2004  
LETTING DATE: DECEMBER 19, 2006

R. DONALD HURBUT PE  
ROADWAY DESIGN ENGINEER

CARL L. BUSH III, PE  
PROJECT DESIGN ENGINEER

CATHY S. HOUSER, PE  
DESIGN SERVICES PROJECT ENGINEER

HYDRAULICS ENGINEER \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER \_\_\_\_\_ P.E.

STATE DESIGN ENGINEER \_\_\_\_\_ P.E.

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED  
SUPERVISOR \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

# CONTRACT: R-2510A

NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' WIDE WITH UNLESS OTHERWISE NOTED

SEE SHEET 24 FOR -1- PROFILE CONNECTIONS ARE 6' WIDE WITH UNLESS OTHERWISE NOTED

SEE SHEET 2C FOR DITCH DETAILS ALL DRIVEWAYS ARE 18" WIDE WITH 10' RADI UNLESS OTHERWISE NOTED



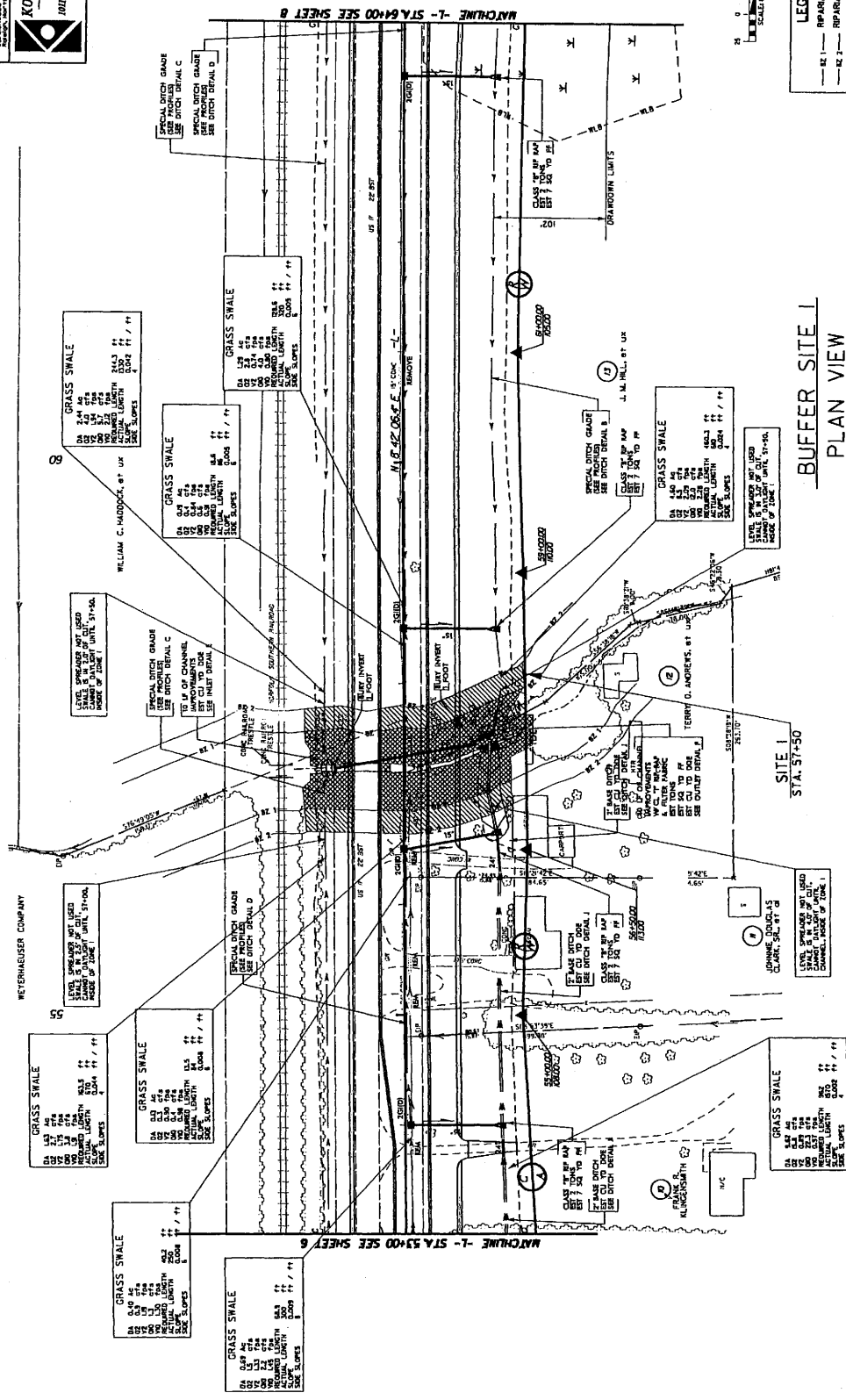
PROJECT REFERENCE NO. R-250A	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS SUBJECT TO THE J.V. AGREEMENT	

**Carter=Burgess**  
 CONSULTING ENGINEERS  
 101 SCHAUB DR. SUITE #202  
 RALEIGH, N.C. 27606

**KO & ASSOCIATES, P.C.**  
 Consulting Engineers  
 101 SCHAUB DR. SUITE #202  
 RALEIGH, N.C. 27606



160



**LEGEND**

[Symbol]	RIPARIAN BUFFER - ZONE 1
[Symbol]	RIPARIAN BUFFER - ZONE 2
[Symbol]	MITIGABLE IMPACTS ZONE 1
[Symbol]	MITIGABLE IMPACTS ZONE 2

BUFFER SITE 1  
 PLAN VIEW



PROJECT REFERENCE NO.	R-2510A
PRELIMINARY PLANS	NO NOT FOR CONSTRUCTION
INCORPORATED PLANS	NO NOT FOR CONSTRUCTION
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SHEET NO.	17

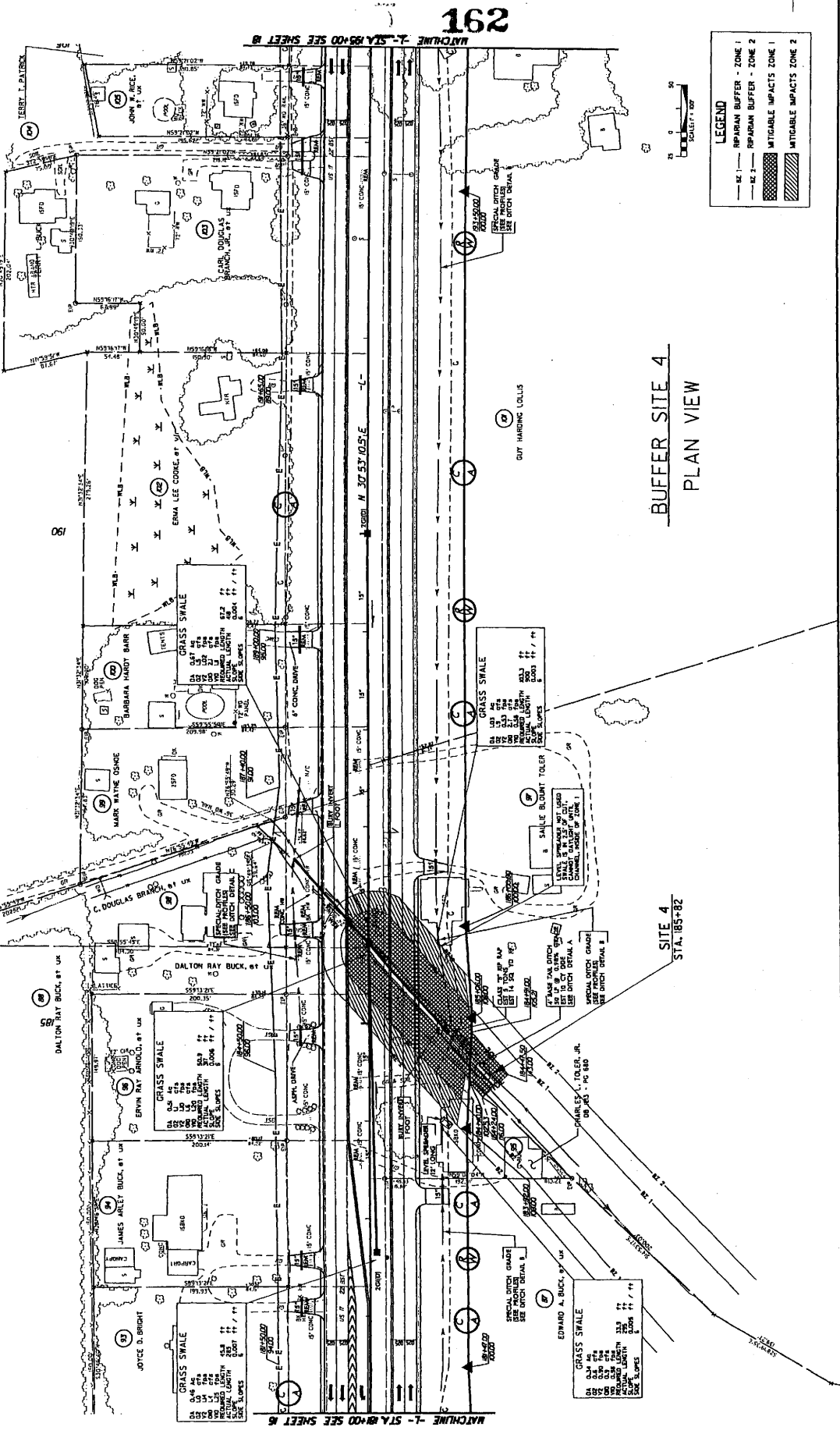
**Carter Burgess**  
 Consulting Engineers  
 101 SCHUBB DR. SUITE #302  
 RALEIGH, N.C. 27606

**KO & ASSOCIATES, P.C.**  
 Consulting Engineers  
 101 SCHUBB DR. SUITE #302  
 RALEIGH, N.C. 27606



NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' ABC UNLESS OTHERWISE NOTED

SEE SHEET 29 FOR "L" PROFILE  
 SEE SHEET 2C FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16" WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED



**LEGEND**

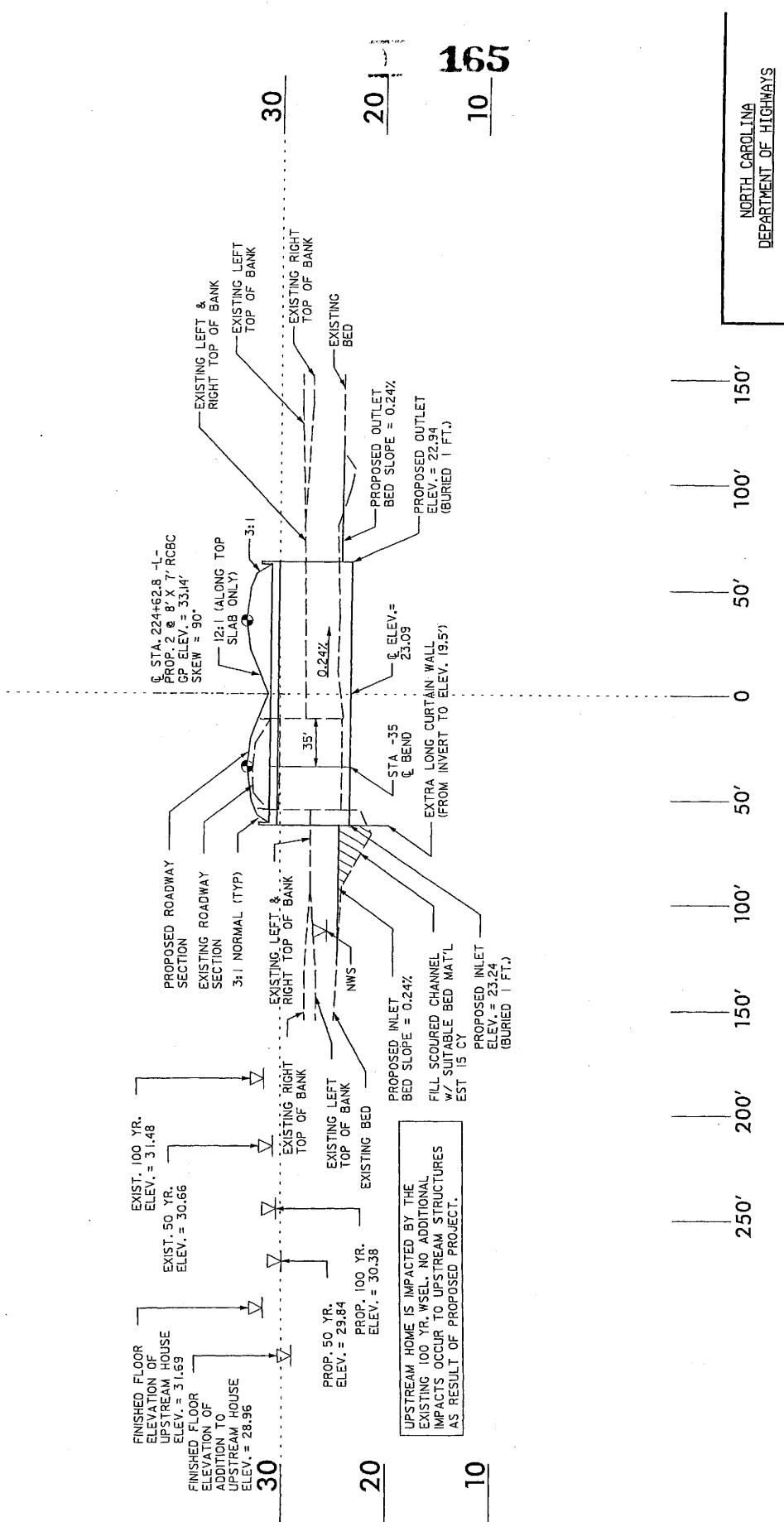
—	REPAIR BUFFER - ZONE 1
—	REPAIR BUFFER - ZONE 2
▨	MITIGABLE IMPACTS ZONE 1
▨	MITIGABLE IMPACTS ZONE 2

**BUFFER SITE 4  
 PLAN VIEW**

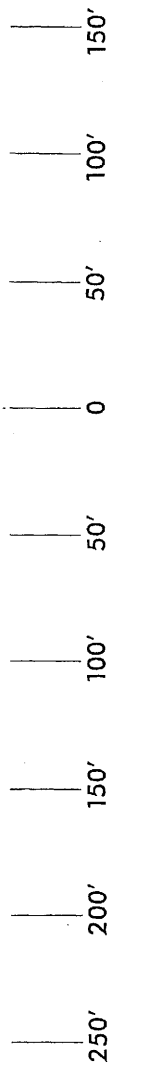








**PROFILE ALONG STRUCTURE  
 BUFFER SITE 5  
 STA 224+00**



UPSTREAM HOME IS IMPACTED BY THE EXISTING 100 YR. WSEL. NO ADDITIONAL IMPACTS OCCUR TO UPSTREAM STRUCTURES AS RESULT OF PROPOSED PROJECT.

STATE PROJECT NUMBER IN N.C.	R-2510A	SHEET NUMBER	1
PROJECT NUMBER	34400.1.1	DATE	MAY-75-3129
DESIGNER	PE	CHECKER	PE

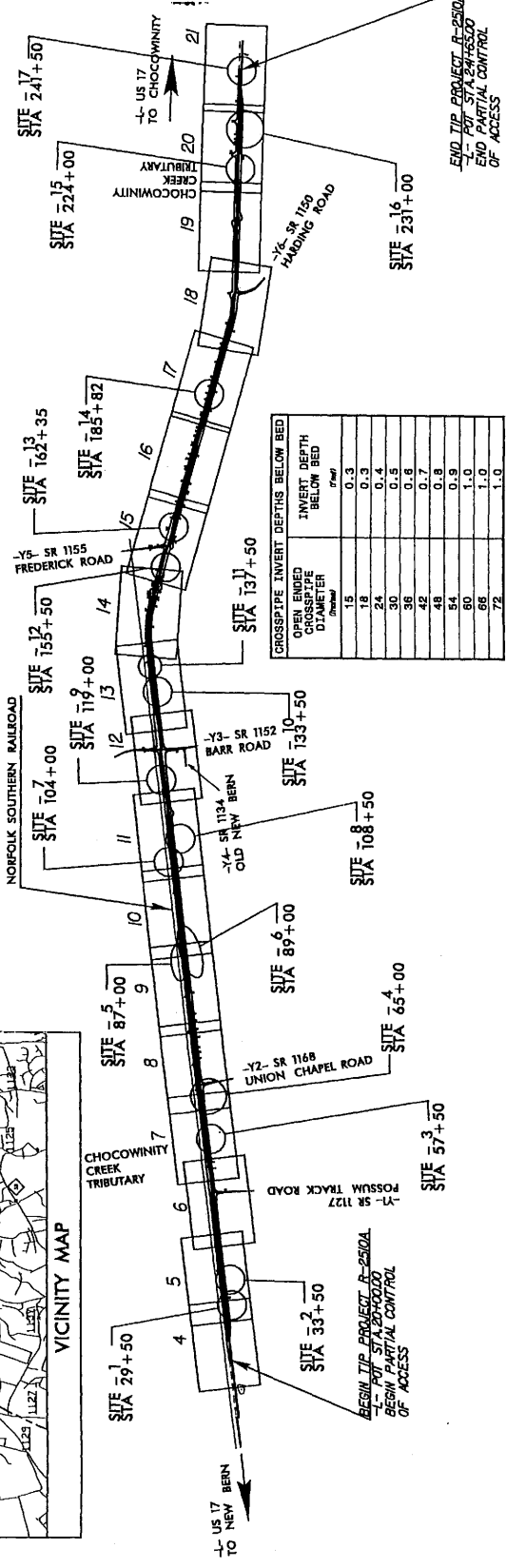
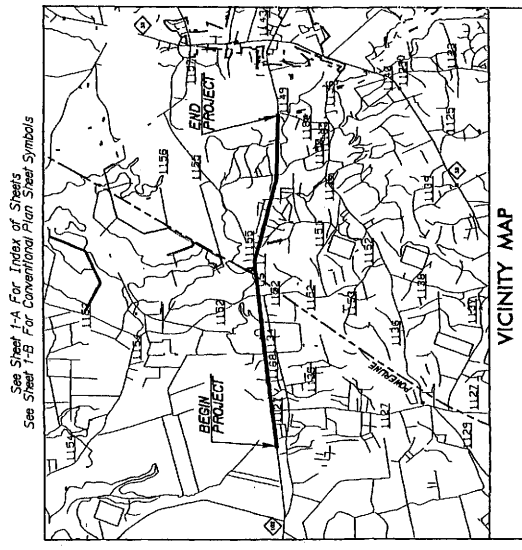
# CONTRACT: R-2510A

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**BEAUFORT COUNTY**

LOCATION: US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
TO SR 1149 (PRICE ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

## R-2510A: PERMIT SITE MAP



CROSSPIPE INVERT DEPTH BELOW BED	INVERT DEPTH BELOW BED	INVERT DEPTH BELOW BED
DIAMETER	FEET	FEET
15	0.3	0.3
18	0.3	0.3
24	0.3	0.3
30	0.5	0.5
36	0.8	0.8
42	0.7	0.7
48	0.8	0.8
54	0.9	0.9
60	1.0	1.0
66	1.0	1.0
72	1.0	1.0

NOTES: THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. CLEANING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD.

**Project is the Office of**  
**Carter-Burgess**  
Consulting Engineers, Inc.  
1000 North Salisbury Street, Salisbury, N.C. 28156  
Phone: 704/338-1111

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
SAS STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: DECEMBER 17, 2004  
LETTING DATE: DECEMBER 19, 2006

R. DONALD HURLBUT, PE  
ROADWAY DESIGN ENGINEER

CARL L. BUSH III, PE  
PROJECT DESIGN ENGINEER

CATHY S. HOUSER, PE  
DESIGN SERVICES PROJECT ENGINEER

NC DOT CONTACT:

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT R-2510A = 4.387 MI  
TOTAL LENGTH OF TIP PROJECT R-2510A = 4.837 MI

**DESIGN DATA**

ADT 2006 = 10200 VPD  
ADT 2026 = 17000 VPD  
DHY = 12 %  
D = 60 %  
T = 12 %  
V = 60 MPH  
\* TTST 7%  
DUAL 5%



991  
**R-2510A: PERMIT SITE MAP**  
PREPARED BY: KO & ASSOCIATES, PC; RALEIGH, NC

**HYDRAULICS ENGINEER**

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

**ROADWAY DESIGN ENGINEER**

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION



PROJECT REFERENCE NO. R-25/03A	SHEET NO. 7
ROADWAY DESIGN ENGINEER	PROBABLE ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
INCOMPLETE PLANS DO NOT USE FOR ANY ACCIDENT	

**Carter-Burgess**  
 Consulting Engineers, P.C.  
 1011 SCHAEFER  
 RALEIGH, N.C. 27606

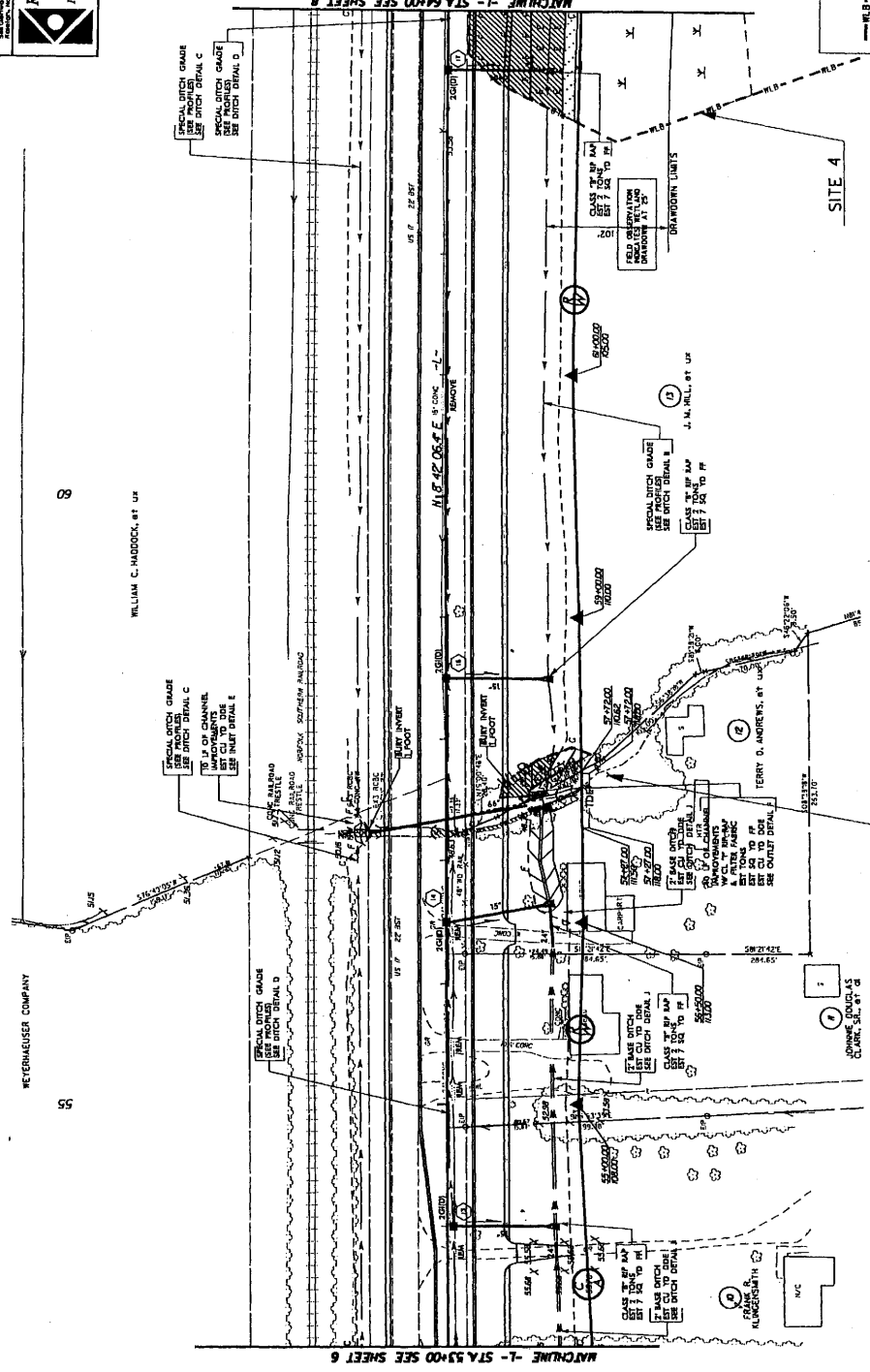


168



LEGEND	
[Symbol]	WETLAND
[Symbol]	TEMPORARY SURFACE WATER LOSS
[Symbol]	PERMANENT SURFACE WATER LOSS
[Symbol]	DESIGNS FILL IN
[Symbol]	DESIGNS EXCAVATION IN
[Symbol]	WETLAND IMPROVEMENTS
[Symbol]	MECHANIZED CLEARING

NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' ASB UNLESS OTHERWISE NOTED  
 SEE SHEET 24 FOR "L" PROFILE  
 SEE SHEET 26 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED



WETLAND SITES 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAWDOWN  
 SITE 4 0.03 AC

SEE SHEET 24 FOR "L" PROFILE  
 SEE SHEET 26 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED

**Carter-Burgess**  
 Consulting Engineers, P.C.  
 1011 SCHAEFER  
 RALEIGH, N.C. 27606



168



LEGEND	
[Symbol]	WETLAND
[Symbol]	TEMPORARY SURFACE WATER LOSS
[Symbol]	PERMANENT SURFACE WATER LOSS
[Symbol]	DESIGNS FILL IN
[Symbol]	DESIGNS EXCAVATION IN
[Symbol]	WETLAND IMPROVEMENTS
[Symbol]	MECHANIZED CLEARING

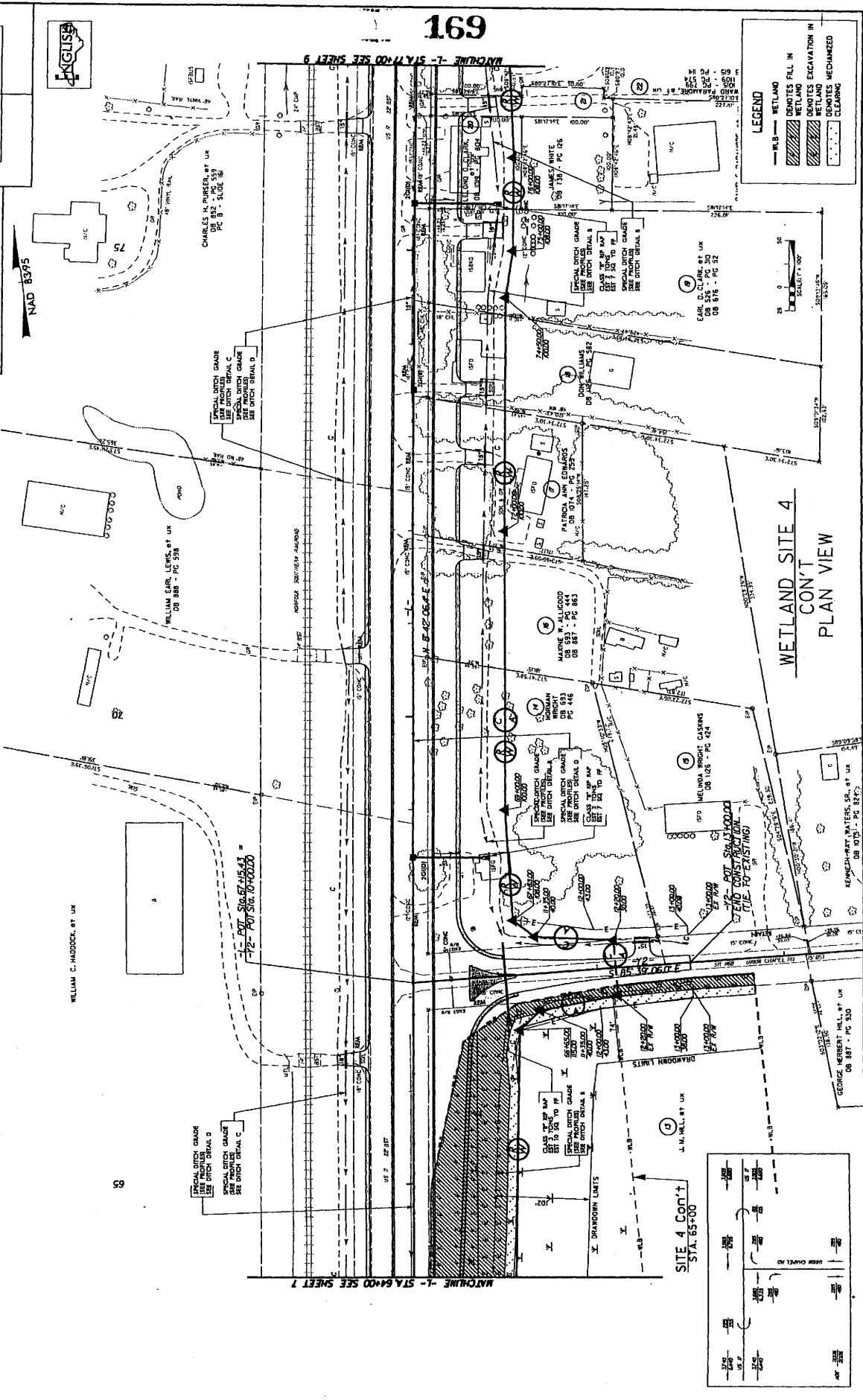
WETLAND SITES 3 & 4  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAWDOWN  
 SITE 4 0.03 AC

PROJECT REFERENCE NO. R-2500A  
 SHEET NO. B  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION  
 INCOMPLETE PLANS  
 DO NOT USE FOR ANY ACCURACY

**Carter-Burgess**  
 CONSULTING ENGINEERS  
 1001 S. RAILROAD, P.O. BOX 2008  
 RALEIGH, N.C. 27602

**KO & ASSOCIATES, P.C.**  
 Consulting Engineer  
 1001 S. RAILROAD, SUITE #202  
 RALEIGH, N.C. 27608

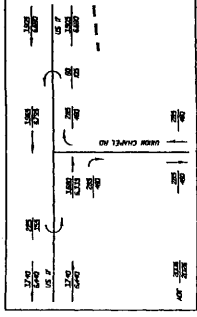
NOTE: ALL DRIVEWAY CONNECTIONS ARE 6" ABC UNLESS OTHERWISE NOTED  
 SEE SHEET 24 FOR L-1 PROFILE  
 SEE SHEET 32 FOR L-2 PROFILE  
 SEE SHEET 28 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 6" WIDE WITH 10" RADIUS UNLESS OTHERWISE NOTED



**LEGEND**

- WETLAND
- DEMOTES FILL IN
- WETLAND EXCAVATION IN
- WETLAND
- DEMOTES MECHANIZED CLEARING

WETLAND SITE 4  
 CON'T  
 PLAN VIEW



PROJECT REFERENCE NO. R-2510A	SHEET NO. 9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS FOR CONSTRUCTION INCOMPLETE PLANS USE FOR REFERENCE ONLY	

**Carter Burgess**  
 CONSULTING ENGINEERS  
 1001 SCHUBB DR. SUITE #102  
 RALEIGH, N.C. 27606

**KO & ASSOCIATES, P.C.**  
 Consulting Engineers  
 1011 SCHUBB DR. SUITE #102  
 RALEIGH, N.C. 27606



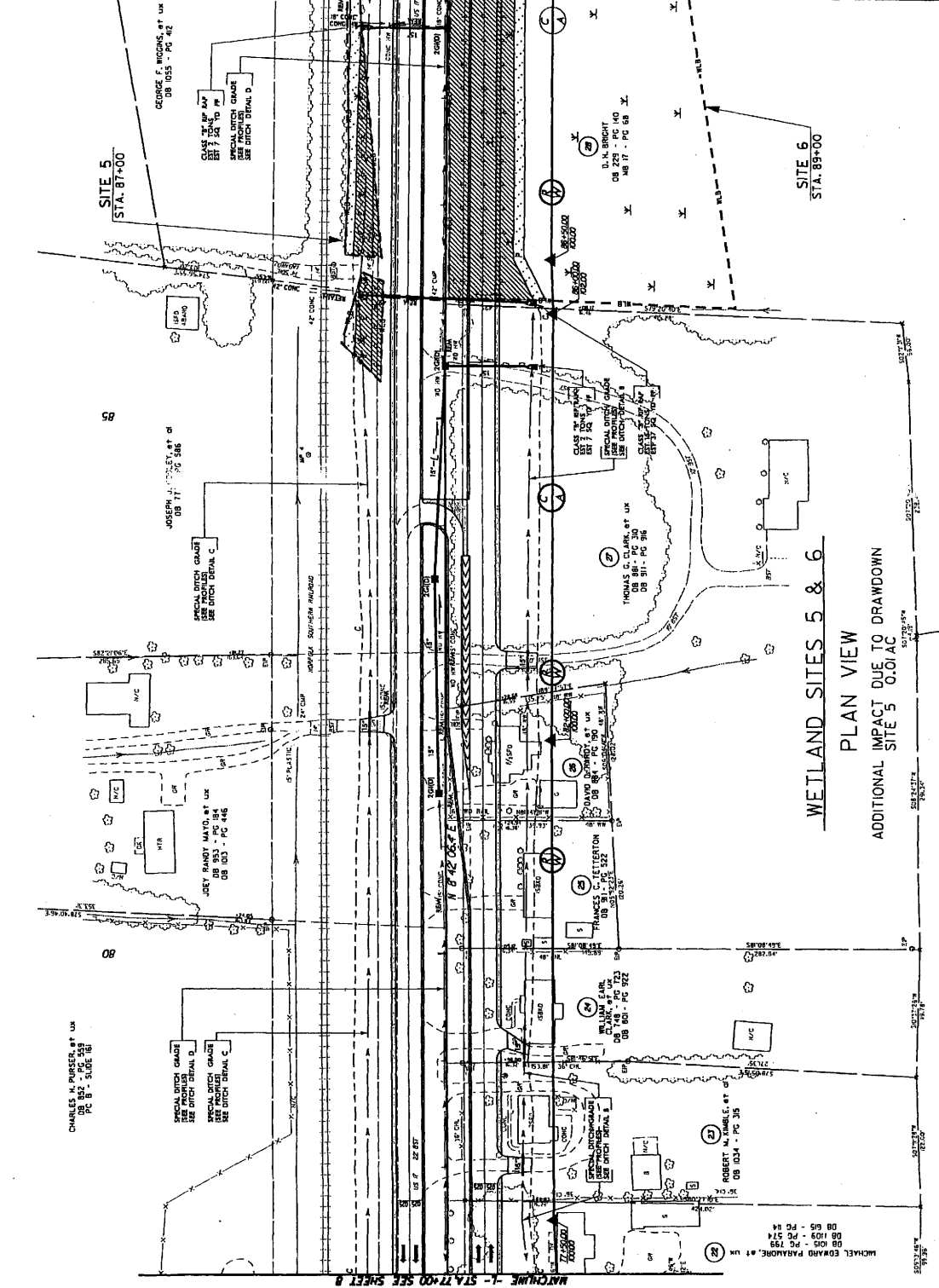
170

**LEGEND**

- WETLAND
- WETLAND DENOTES FILL IN
- WETLAND DENOTES EXCAVATION IN
- MECHANIZED CLEANING

NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' OR WIDER UNLESS OTHERWISE NOTED

SEE SHEET 25 FOR 1" PROFILE  
 SEE SHEET 20 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 15' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED



**WETLAND SITES 5 & 6**  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAWDOWN  
 SITE 5 0.01 AC

PROJECT REFERENCE NO. SHEET NO. 10  
 R-2510A  
 HYDRAULIC ENGINEER  
 PRELIMINARY PLANS  
 INCOMPLETE PLANS  
 DO NOT USE FOR CONSTRUCTION  
 DO NOT USE FOR N/A ACCURACY

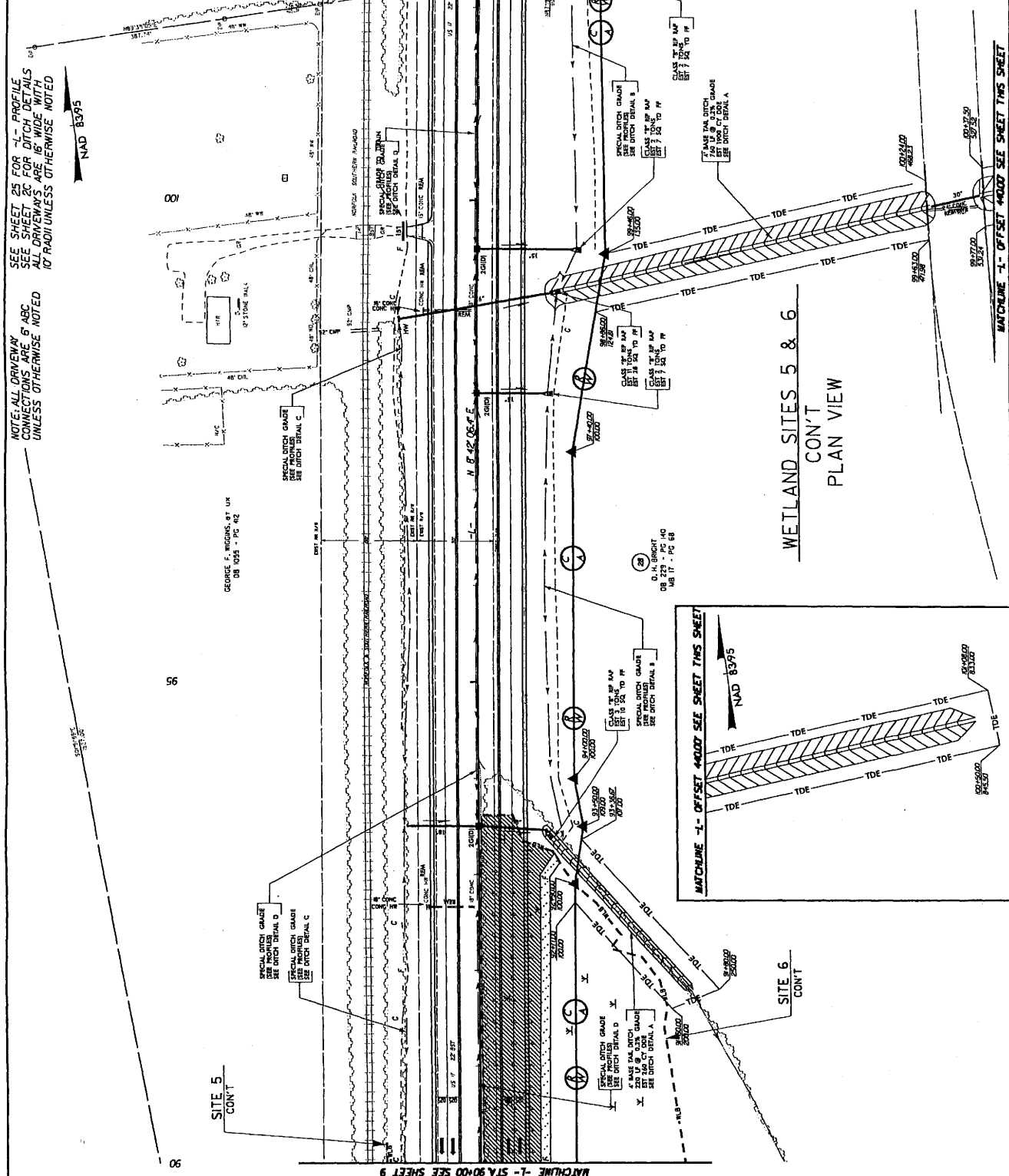
**Carter-Burgess**  
 CONSULTING ENGINEERS  
 101 SCHAUB DR. SUITE #302  
 RALEIGH, N.C. 27606



171

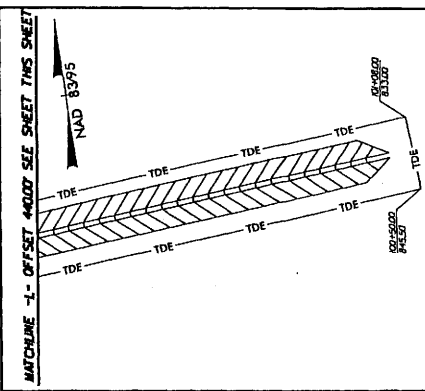


**LEGEND**  
 - Hatched area: WETLAND  
 - Dotted area: DEMOTES FILL IN WETLAND  
 - Dashed line: DEMOTES MECHANIZED CLEARING



NOTE: ALL DRIVEWAY CONNECTIONS ARE 6' WIDE WITH UNLESS OTHERWISE NOTED  
 SEE SHEET 25 FOR -1- PROFILE  
 SEE SHEET 2C FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED

WETLAND SITES 5 & 6  
 CON'T  
 PLAN VIEW



MATCHLINE -1- OFFSET 440+00 SEE SHEET THIS SHEET

MATCHLINE -1- STA. 90+00 SEE SHEET 9

PROJECT REFERENCE NO. R-2500A  
 SHEET NO. II  
 PREPARED BY: ENGINEER  
 CHECKED BY: ENGINEER

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS  
 DO NOT USE FOR CONSTRUCTION

**Carter-Burgess**  
 CONSULTING ENGINEERS  
 1011 W. BROAD ST. SUITE 200  
 RALEIGH, N.C. 27608

**KO & ASSOCIATES, P.C.**  
 CONSULTING ENGINEERS  
 1011 W. BROAD ST. SUITE 200  
 RALEIGH, N.C. 27608

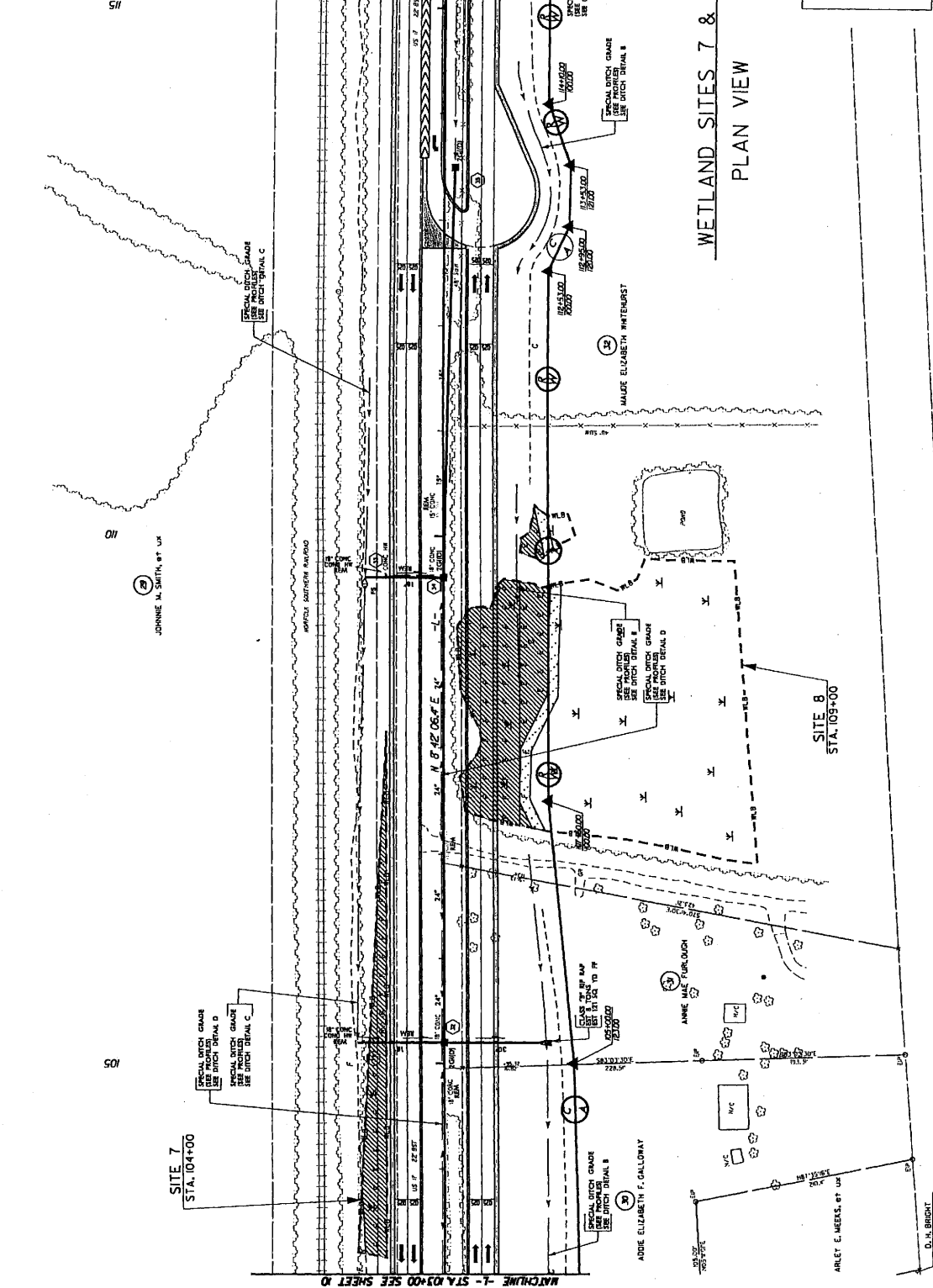


172

NOTE: ALL DRIVEWAY  
 LOCATIONS SHOWN  
 UNLESS OTHERWISE NOTED

SEE SHEET 26 FOR L- PROFILE  
 SEE SHEET 20 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE SHOWN WITH  
 10' RADIUS UNLESS OTHERWISE NOTED

NAD 83/95



WETLAND SITES 7 & 8  
 PLAN VIEW

LEGEND

- W-LB WETLAND
- DEMOTES FALL IN WETLAND
- DEMOTES EXCAVATION IN WETLAND
- DEMOTES MECHANIZED CLEARING



NOTE: ALL DRIVEWAY  
 LOCATIONS SHOWN  
 UNLESS OTHERWISE NOTED

PROJECT REFERENCE NO. R-2500A  
 SHEET NO. II  
 PREPARED BY: ENGINEER  
 CHECKED BY: ENGINEER

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS  
 DO NOT USE FOR CONSTRUCTION

**Carter-Burgess**  
 CONSULTING ENGINEERS  
 1011 W. BROAD ST. SUITE 200  
 RALEIGH, N.C. 27608

**KO & ASSOCIATES, P.C.**  
 CONSULTING ENGINEERS  
 1011 W. BROAD ST. SUITE 200  
 RALEIGH, N.C. 27608

SITE 7  
 STA. 104+00

SITE 8  
 STA. 109+00





PROJECT REFERENCE NO. R-250A  
 SHEET NO. 73  
 PREPARED BY: [Name]  
 CHECKED BY: [Name]  
 DATE: [Date]

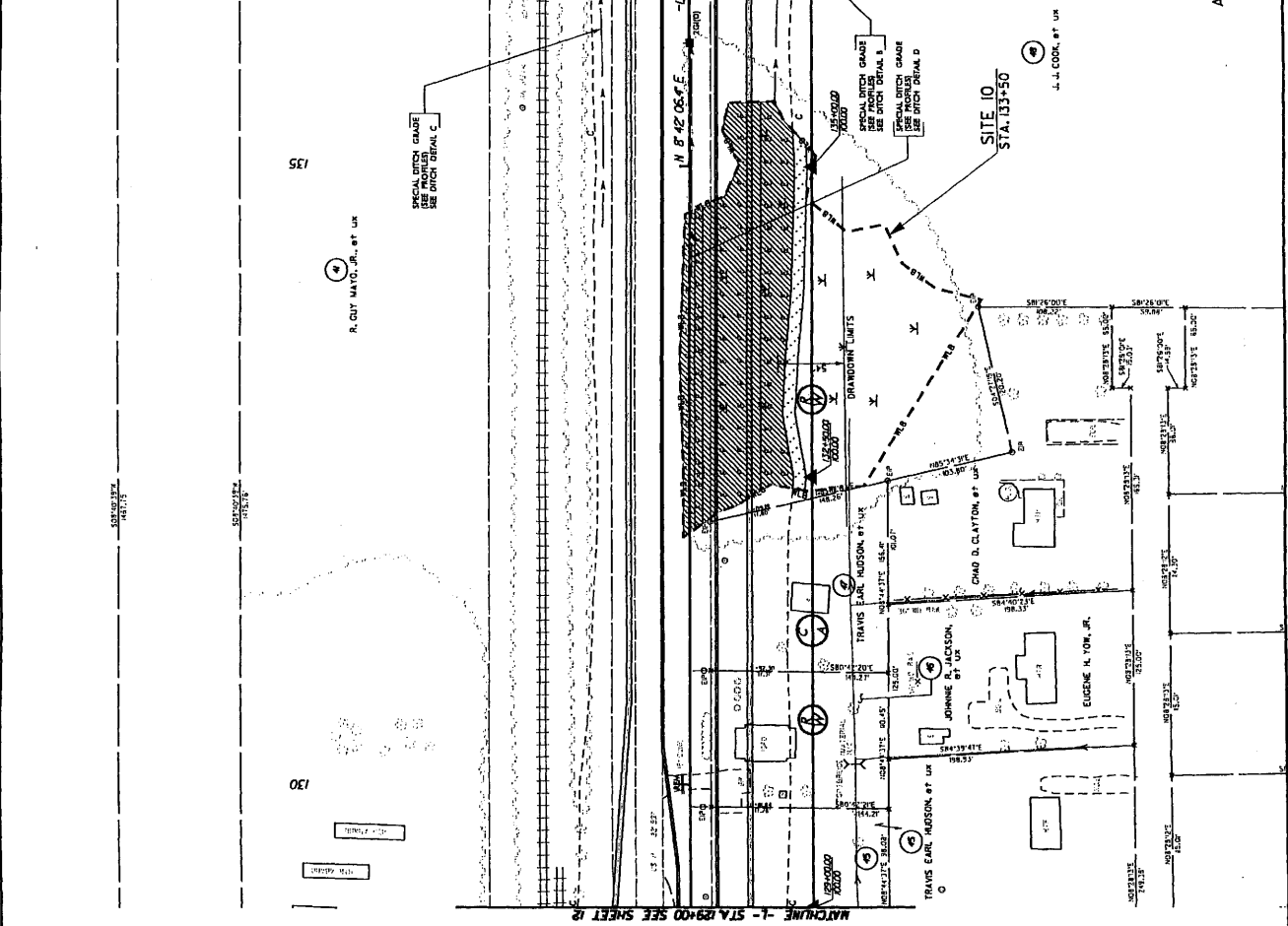
**Carter Burgess**  
 Consulting Engineers  
 101 KALEIGH, N.C. 27606  
 #202



NOTE: ALL DRIVEWAY CONNECTIONS ARE UNLESS OTHERWISE NOTED  
 SEE SHEET 27 FOR "L" PROFILE  
 SEE SHEET 28 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE UNLESS OTHERWISE NOTED  
 10' RADI UNLESS OTHERWISE NOTED

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION  
 INCOMPLETE PLANS  
 DO NOT USE FOR ACCIDENT

174



**LEGEND**

- W-8 — WETLAND
- ▨ DENOTES FILL IN WETLAND EXCAVATION IN
- ▧ DENOTES MECHANIZED CLEARING

**WETLAND SITES IO & II**  
 PLAN VIEW  
 ADDITIONAL IMPACT DUE TO DRAWDOWN  
 SITE IO 0.18 AC



MATCHLINE - STA. 139+00 SEE SHEET 12  
 MATCHLINE - STA. 140+00 SEE SHEET 11



PROJECT REFERENCE NO. R-2503  
 DRAWING NO. 17  
 HYDRAULICS ENGINEER  
 ROADWAY DESIGN ENGINEER

**PRELIMINARY PLANS**  
 DO NOT USE FOR CONSTRUCTION

**INCOMPLETE PLANS**  
 DO NOT USE FOR P.A. ACQUISITION

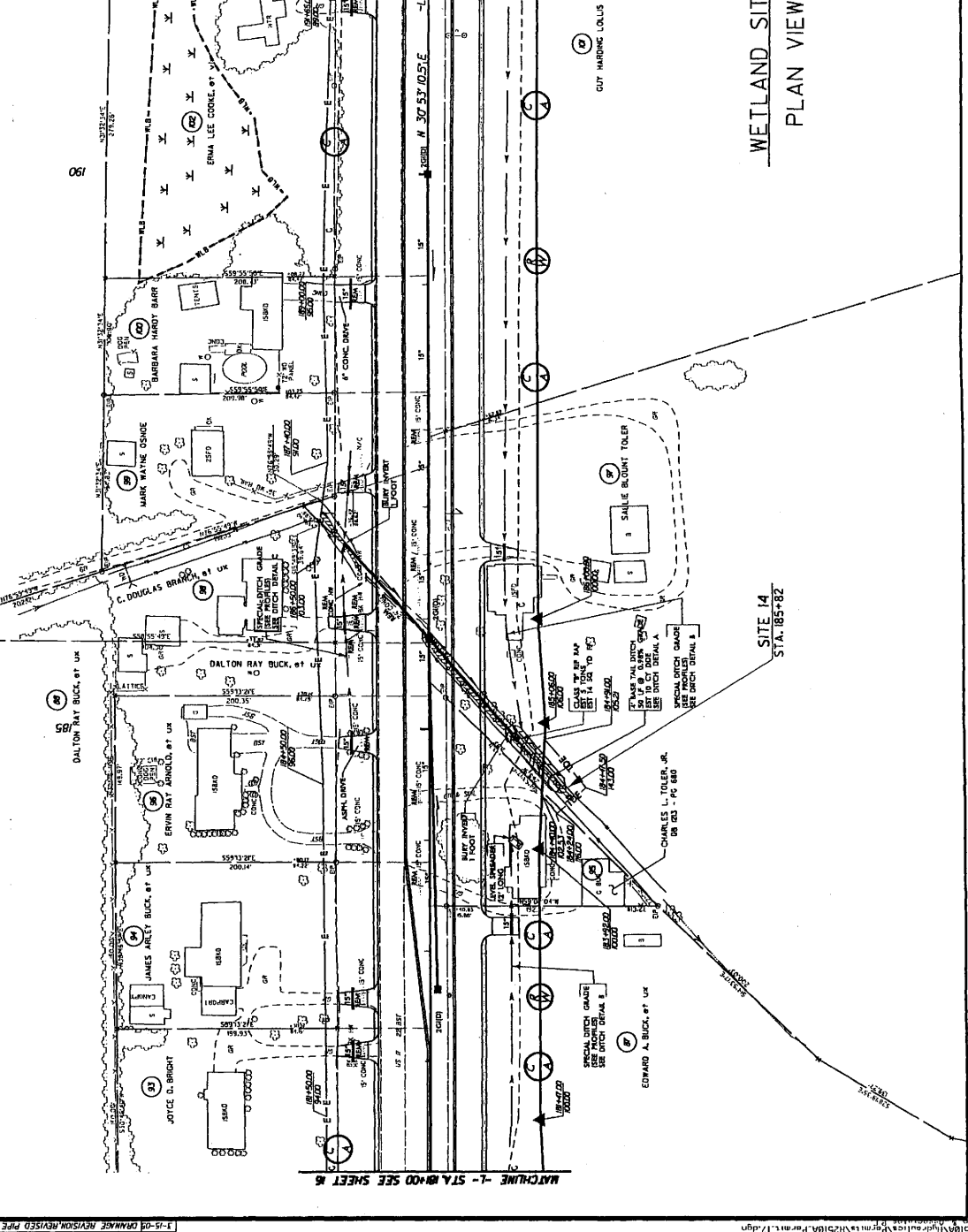
**Cartier-Burgess**  
 Consulting Engineers  
 100 SCHUBERT DR. SUITE #202  
 RALEIGH, N.C. 27606

**NOTE: ALL DRIVEWAY & ABC COMMENTS ARE TO BE WIDENED WITH UNLESS OTHERWISE NOTED**

**SEE SHEET 29 FOR 1" PROFILES**  
**SEE SHEET 30 FOR DITCH DETAILS**  
**ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED**



**K.O. & ASSOCIATES, P.C.**  
 Consulting Engineers  
 100 SCHUBERT DR. SUITE #202  
 RALEIGH, N.C. 27606



**WETLAND SITE 14**  
**PLAN VIEW**

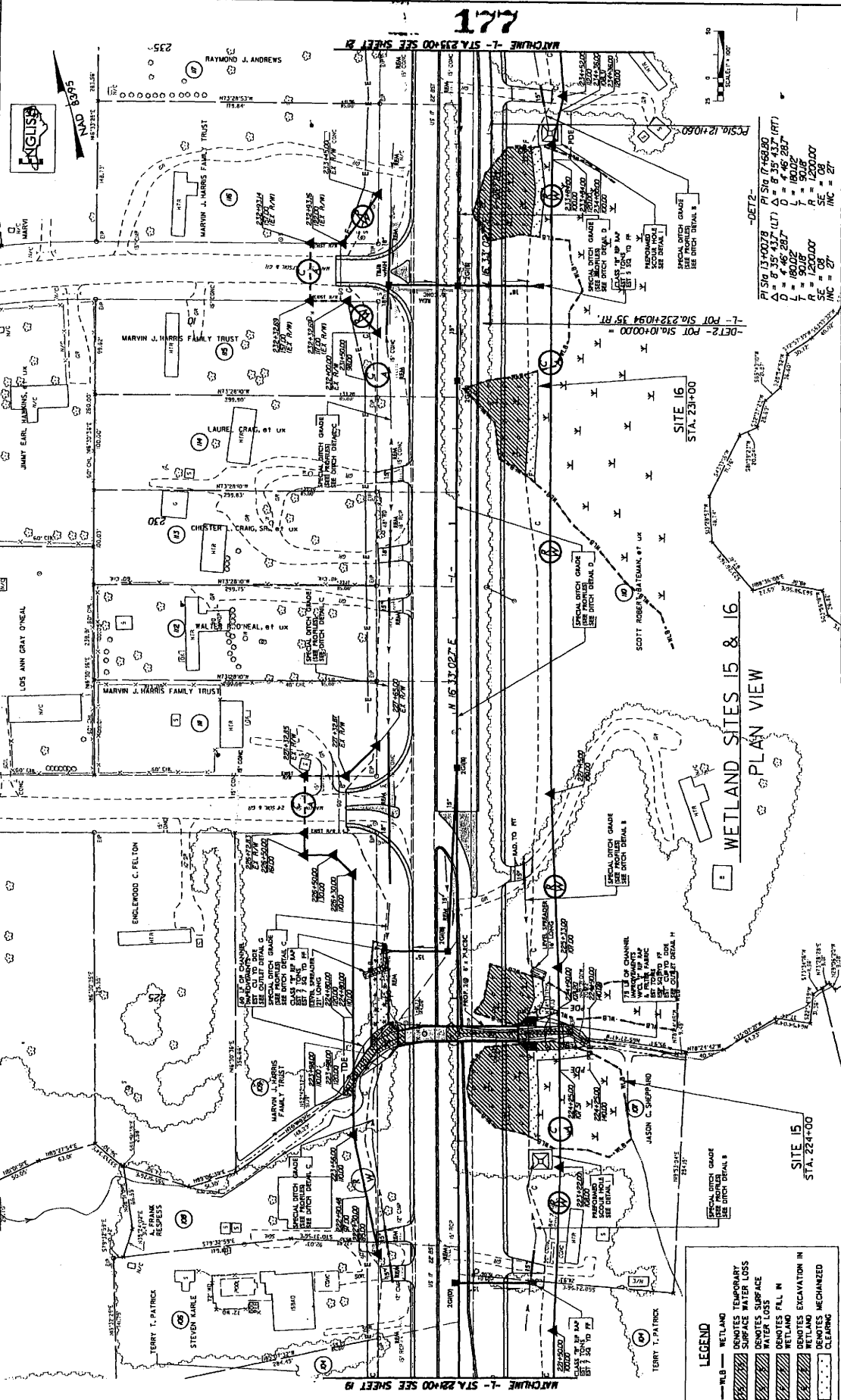
**LEGEND**

- M.B. — MUD BANK
- WETLAND
- DEMOTES TEMPORARY FILL IN SURFACE WATER
- DEMOTES FILL IN SURFACE WATER

PROJECT NUMBER NO. R-25/0A  
 SHEET NO. 20  
 ROADWAY DESIGN ENGINEER  
 INCHALICES  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION  
 INCOMPLETE PLANS  
 DO NOT USE FOR A.A. ACQUISITION

**Carter-Burgess**  
 Consulting Engineers  
 100 S. RALEIGH DR. SUITE #202  
 RALEIGH, N.C. 27606  
 KO & ASSOCIATES, P.C.  
 Consulting Engineers  
 100 S. RALEIGH DR. SUITE #202  
 RALEIGH, N.C. 27606

NOTE: ALL DRIVEWAY CONNECTIONS TO BE MADE UNLESS OTHERWISE NOTED  
 SEE SHEET 30 FOR 1" PROFILE  
 SEE SHEET 34 FOR -DET2- PROFILE  
 SEE SHEET 20 FOR DITCH DETAILS  
 ALL DRIVEWAYS ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED



**LEGEND**

W.L.S.	WETLAND
[Hatched Box]	ISOLATES TEMPORARY SURFACE WATER LOSS
[Hatched Box]	DESNOTES SURFACE WATER LOSS
[Hatched Box]	DESNOTES FILL IN WETLAND
[Hatched Box]	DESNOTES EXCAVATION IN WETLAND
[Hatched Box]	DESNOTES MECHANIZED CLEARING

**-DET2-**

PI Sta 13+00.78	PI Sta 17+69.89
Δ = 9.69	Δ = 4.89
L = 180.02'	L = 90.01'
Δ = 9.69	Δ = 4.89
L = 180.02'	L = 90.01'
SE = 120.000'	SE = 60.000'
INC = 27'	INC = 27'

177

PROJECT REFERENCE NO. R-2510A  
SHEET NO. 21

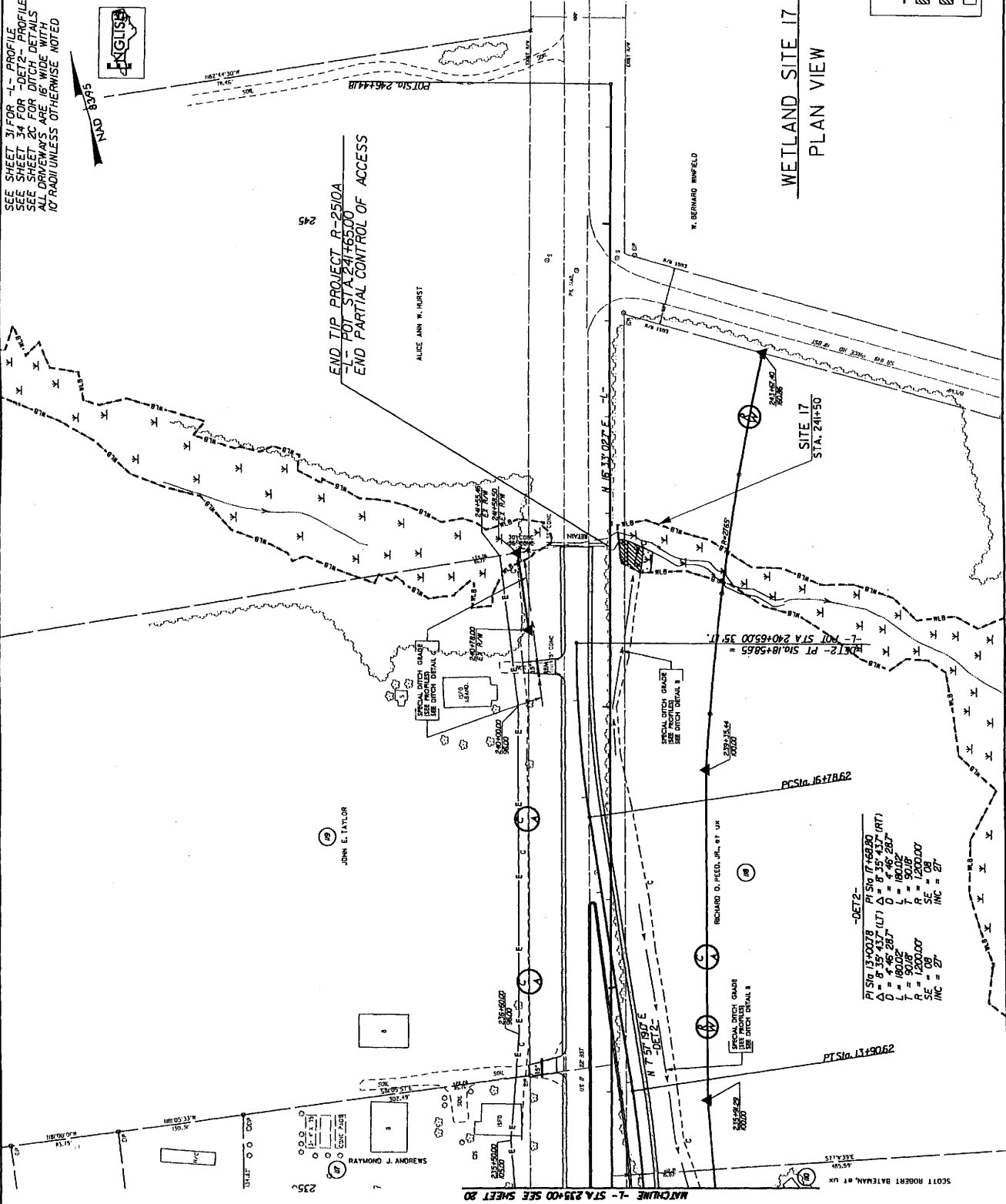
ROADWAY DESIGN ENGINEER  
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION  
INCOMPLETE PLANS  
DO NOT USE FOR A CONTRACT

**Carter Burgess**  
Consulting Engineers  
1001 STATE STREET #302  
RALEIGH, N.C. 27608

**KO & ASSOCIATES, P.C.**  
Consulting Engineers  
1001 STATE STREET #302  
RALEIGH, N.C. 27608

NOTE: ALL DRIVEWAY CONNECTIONS ARE 5' ARC UNLESS OTHERWISE NOTED

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-DET2-

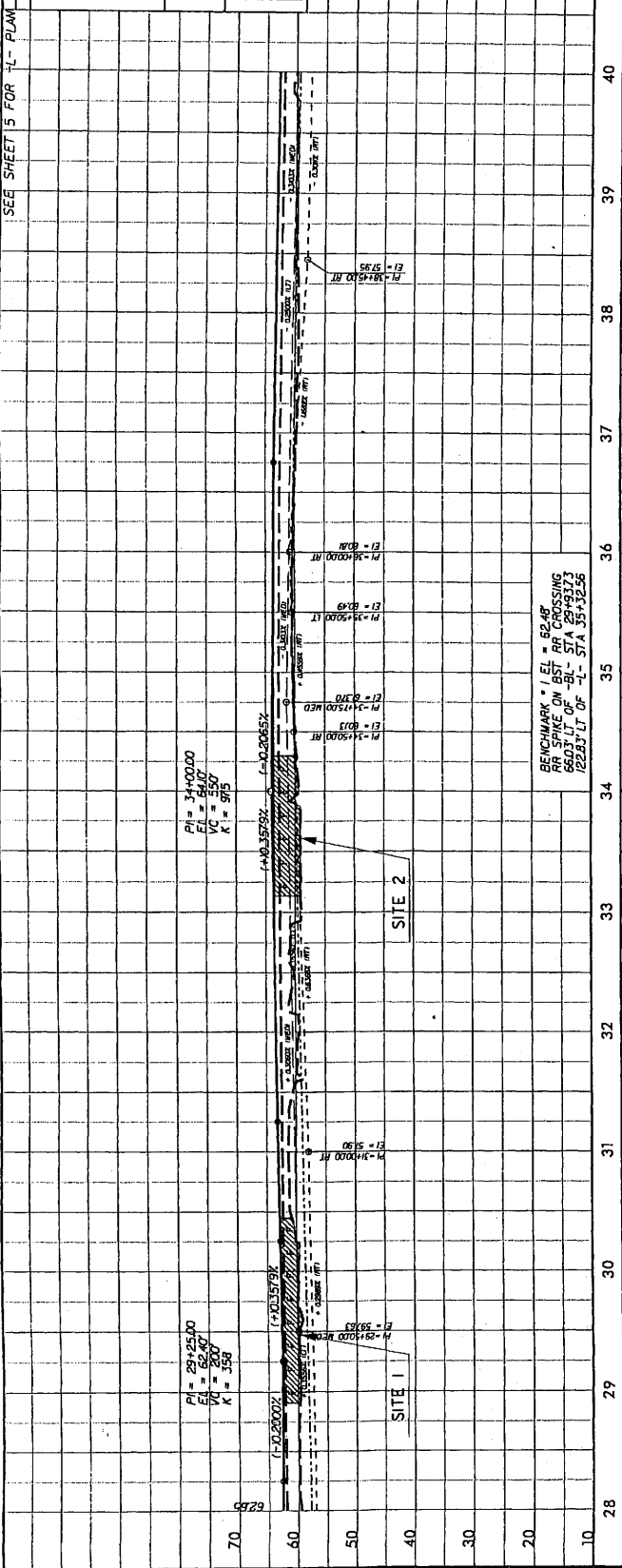
PI Sta. 13+9062	PI Sta. 1647B62
D = 46' 28.7'	D = 46' 28.7'
L = 180.02'	L = 180.02'
T = 50.08'	T = 50.08'
SE = CH	SE = CH
INC = 27'	INC = 27'

SEE SHEET 5 FOR 'L' PLAN

PROJECT REFERENCE NO. 17-2510A  
 PROFESSIONAL ENGINEER  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION

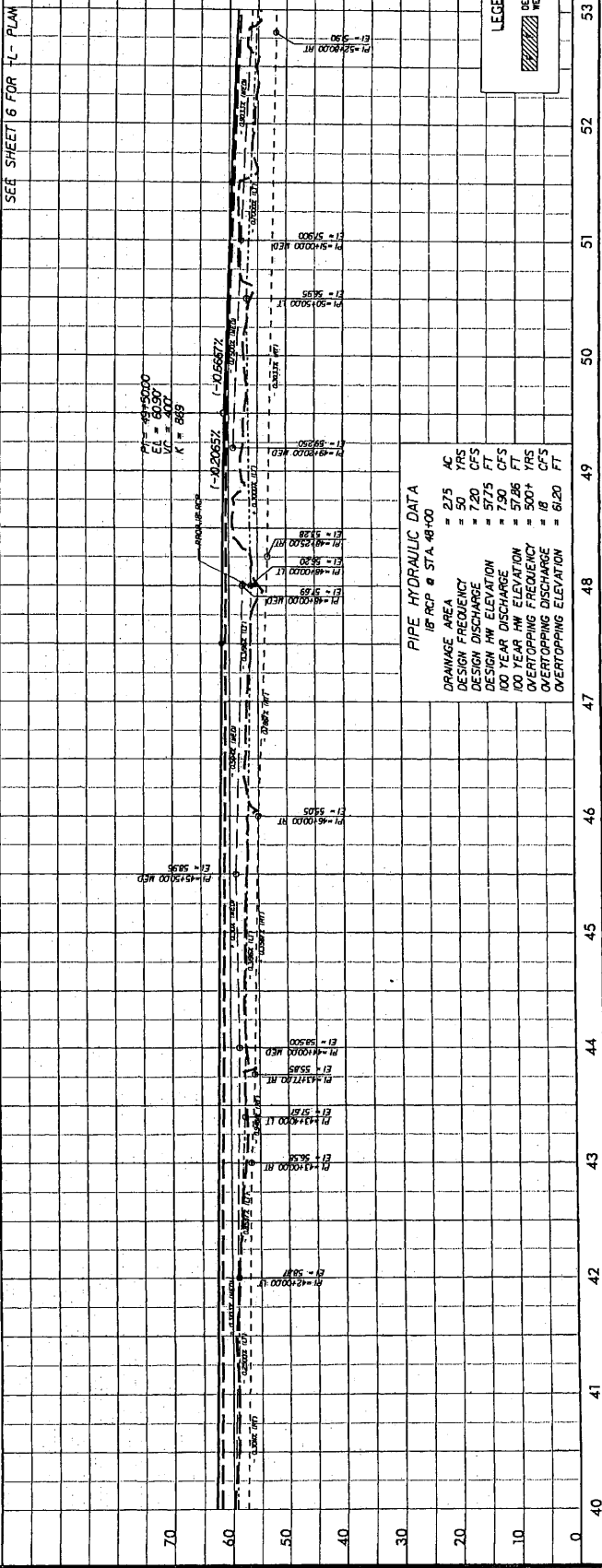
**Carter Burgess**  
 CONSULTING ENGINEERS  
 1001 EAST WILSON AVENUE  
 RALEIGH, N.C. 27605  
 #992

**KO & ASSOCIATES, P.C.**  
 CONSULTING ENGINEERS  
 1001 EAST WILSON AVENUE  
 RALEIGH, N.C. 27605  
 #992



BENCHMARK = I.E.L. = 62.48  
 660.3' N.E. OF STA 28+00.00  
 122.83' LT. OF 'L' STA 35+32.55

SEE SHEET 6 FOR 'L' PLAN



**PIPE HYDRAULIC DATA**  
 18" RCP @ STA. 48+100

DRAINAGE AREA	= 275 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 720 CFS
DESIGN HW ELEVATION	= 57.75 FT
100 YEAR DISCHARGE	= 790 CFS
100 YEAR HW ELEVATION	= 57.86 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 118 CFS
OVERTOPPING ELEVATION	= 62.20 FT

**LEGEND**  
 DENOTES FILL IN WETLAND

40 41 42 43 44 45 46 47 48 49 50 51 52 53

PROJECT REFERENCE NO. R-2510A  
 SHEET NO. 24  
 HYDRAULICS ENGINEER  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION

**Carter-Burgess**  
 CONSULTING ENGINEERS  
 1011 SCHAUER DR., SUITE #202  
 RALEIGH, N.C. 27606

SEE SHEET 7 FOR "L- PLAN"

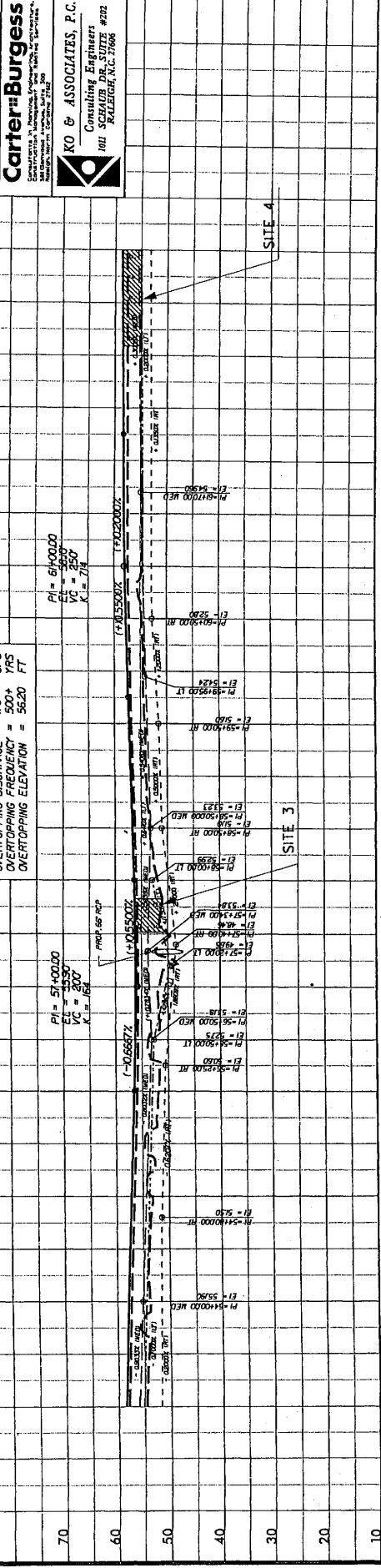
**STRUCTURE HYDRAULIC DATA**  
 # 66 RCP STA 57+33.2 -L-  
 DESIGN DISCHARGE = 70 CFS  
 DESIGN VELOCITY = 50 FT  
 DESIGN HW ELEVATION = 52.81 FT  
 BASE DISCHARGE = 80 CFS  
 BASE FREQUENCY = 100 YRS  
 BASE HW ELEVATION = 53.02 FT  
 OVERTOPPING DISCHARGE = 170 CFS  
 OVERTOPPING FREQUENCY = 500+ YRS  
 OVERTOPPING ELEVATION = 56.20 FT

PI = 57+00.00  
 EL = 55.50  
 VC = 200'  
 K = 1/4

PI = 57+00.00  
 EL = 55.50  
 VC = 200'  
 K = 1/4

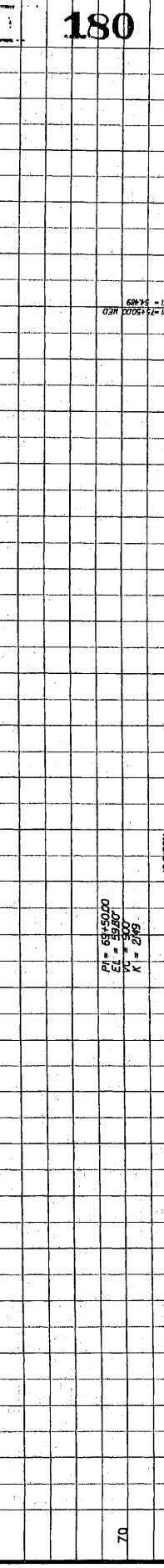
PI = 57+00.00  
 EL = 55.50  
 VC = 200'  
 K = 1/4

PI = 57+00.00  
 EL = 55.50  
 VC = 200'  
 K = 1/4



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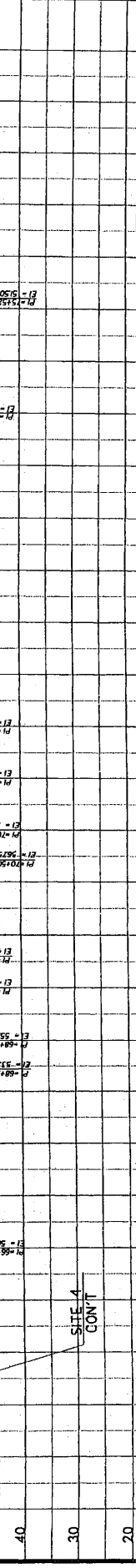
SEE SHEET 8 FOR "L- PLAN"



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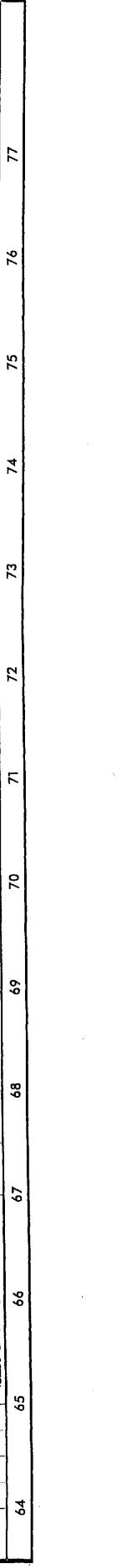
SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 8 FOR "L- PLAN"



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SEE SHEET 13 FOR L- PLAN

PROJECT REFERENCE NO. P-2503A

DATE: 11/15/03

SCALE: AS SHOWN

DESIGNED BY: [Redacted]

CHECKED BY: [Redacted]

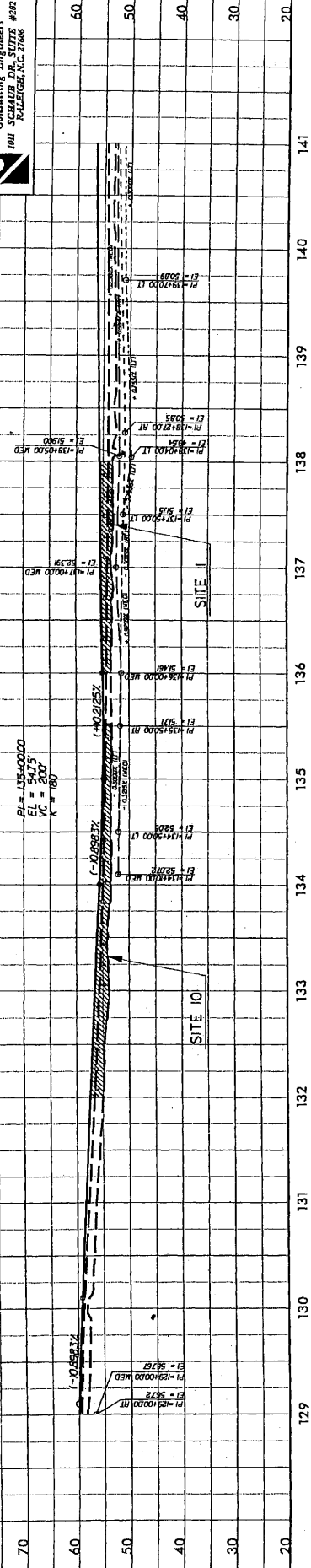
DATE: 11/15/03

PROJECT NO. 27

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**Carter Burgess**  
CONSULTING ENGINEERS  
101 S. W. 10th Ave., Suite 200  
Miami, Florida 33136  
Tel: 305.375.1100  
Fax: 305.375.1101  
www.carterburgess.com

**KO & ASSOCIATES, P.C.**  
Consulting Engineers  
101 S. W. 10th Ave., Suite 200  
Miami, Florida 33136  
Tel: 305.375.1100  
Fax: 305.375.1101  
www.koassociates.com



SEE SHEET 14 FOR L- PLAN

PROJECT REFERENCE NO. P-2503A

DATE: 11/15/03

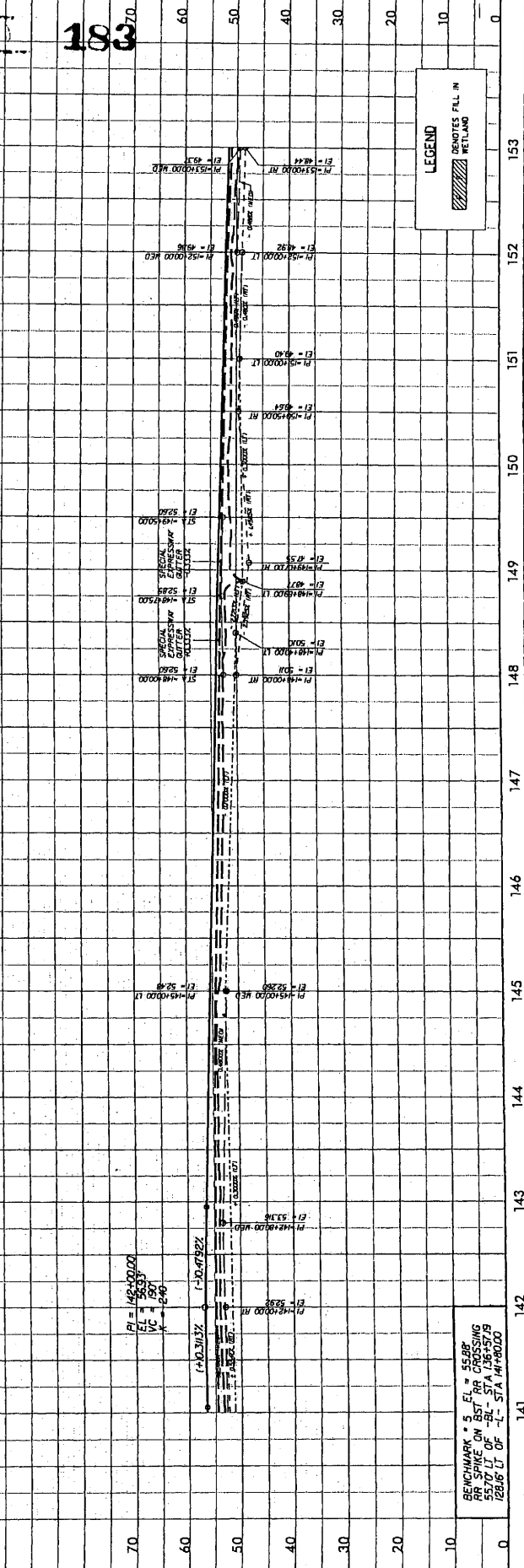
SCALE: AS SHOWN

DESIGNED BY: [Redacted]

CHECKED BY: [Redacted]

DATE: 11/15/03

PROJECT NO. 27



**LEGEND**

GRADES FILL IN  
 RETLAND

BENCHMARK 5, EI = 55.88'  
RR SPIKE ON 85TH RR CROSSING  
5570 LT OF BL- STA 136+57.9  
1288.6 LT OF L- STA 141+80.00

SEE SHEET 15 FOR "L" PLAN

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 152+35

DRAINAGE AREA	= 1180	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 840	CFS
DESIGN HW ELEVATION	= 45.90	FT
100 YEAR HW ELEVATION	= 46.90	FT
100 YEAR DISCHARGE	= 980	CFS
100 YEAR FW ELEVATION	= 46.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 30	CFS
OVERTOPPING ELEVATION	= 50.86	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 152+35

DRAINAGE AREA	= 1180	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 840	CFS
DESIGN HW ELEVATION	= 45.90	FT
100 YEAR HW ELEVATION	= 46.90	FT
100 YEAR DISCHARGE	= 980	CFS
100 YEAR FW ELEVATION	= 46.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 30	CFS
OVERTOPPING ELEVATION	= 50.86	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 155+45

DRAINAGE AREA	= 5455	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1455	CFS
DESIGN HW ELEVATION	= 46.55	FT
100 YEAR HW ELEVATION	= 47.55	FT
100 YEAR DISCHARGE	= 2100	CFS
100 YEAR FW ELEVATION	= 46.59	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 50.28	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 155+45

DRAINAGE AREA	= 5455	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1455	CFS
DESIGN HW ELEVATION	= 46.55	FT
100 YEAR HW ELEVATION	= 47.55	FT
100 YEAR DISCHARGE	= 2100	CFS
100 YEAR FW ELEVATION	= 46.59	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 50.28	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 155+45

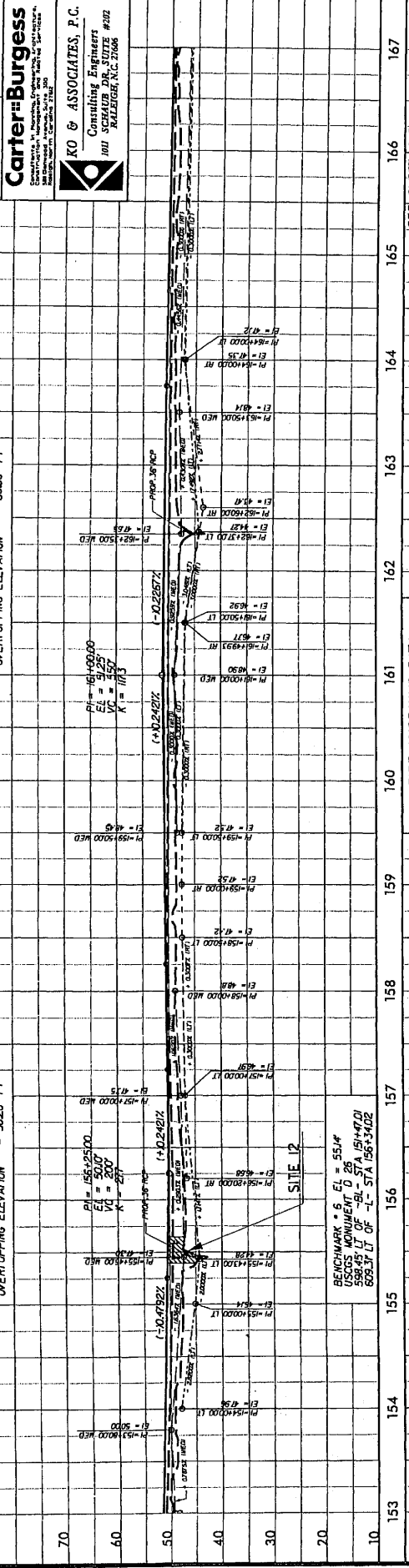
DRAINAGE AREA	= 5455	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1455	CFS
DESIGN HW ELEVATION	= 46.55	FT
100 YEAR HW ELEVATION	= 47.55	FT
100 YEAR DISCHARGE	= 2100	CFS
100 YEAR FW ELEVATION	= 46.59	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 50.28	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 155+45

DRAINAGE AREA	= 5455	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1455	CFS
DESIGN HW ELEVATION	= 46.55	FT
100 YEAR HW ELEVATION	= 47.55	FT
100 YEAR DISCHARGE	= 2100	CFS
100 YEAR FW ELEVATION	= 46.59	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 50.28	FT

**PIPE HYDRAULIC DATA**  
 36" RCP @ STA. 155+45

DRAINAGE AREA	= 5455	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1455	CFS
DESIGN HW ELEVATION	= 46.55	FT
100 YEAR HW ELEVATION	= 47.55	FT
100 YEAR DISCHARGE	= 2100	CFS
100 YEAR FW ELEVATION	= 46.59	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 50.28	FT



SEE SHEET 16 FOR "L" PLAN

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

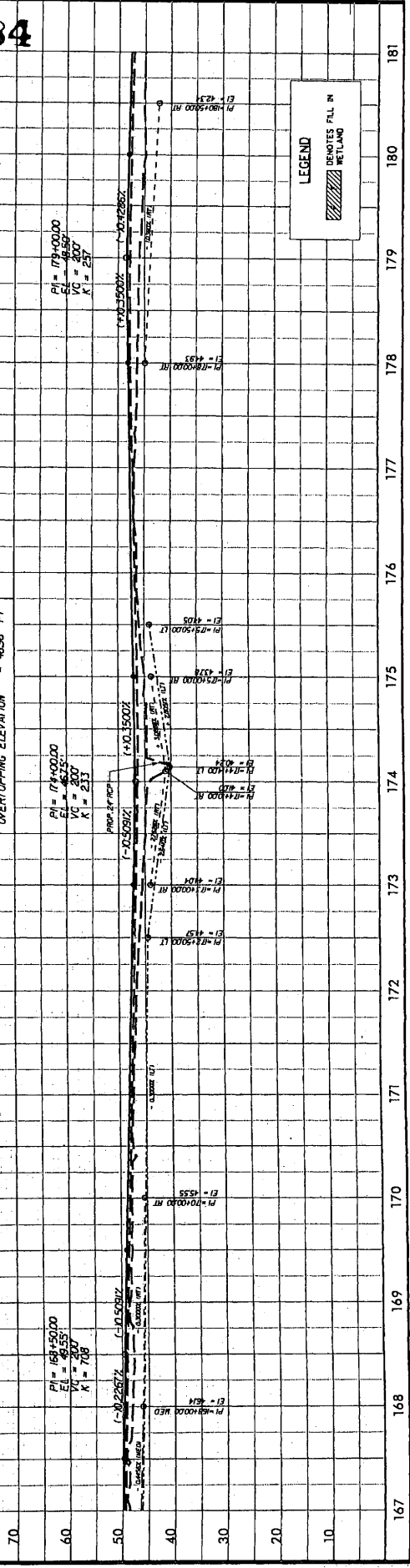
DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

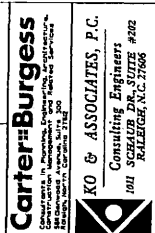
**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

**PIPE HYDRAULIC DATA**  
 24" RCP @ STA. 174+18

DRAINAGE AREA	= 2270	ACS
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 1100	CFS
DESIGN HW ELEVATION	= 42.22	FT
100 YEAR HW ELEVATION	= 43.00	FT
100 YEAR DISCHARGE	= 1300	CFS
100 YEAR FW ELEVATION	= 42.45	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 46.95	FT

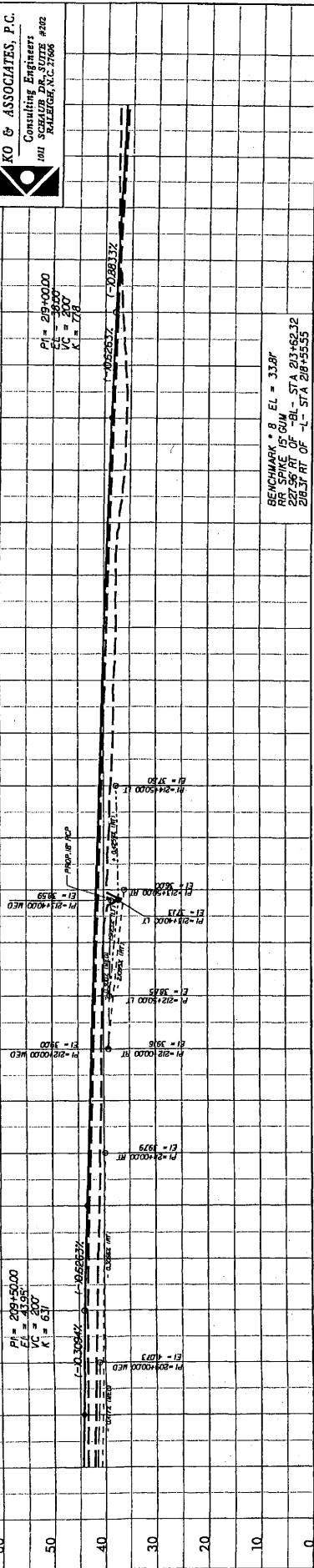




SEE SHEET 19 FOR 'L' PLAN

**PIPE HYDRAULIC DATA**  
 18" RCP @ STA. 203+40

DESIGN AREA	= 1.11 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 2.40 CFS
DESIGN HW ELEVATION	= 38.03 FT
100 YEAR DISCHARGE	= 3.00 CFS
100 YEAR HW ELEVATION	= 39.00 FT
DESIGN FLOW VELOCITY	= 3.00 FT/S
DESIGN OVERTOPPING FREQUENCY	= 500+ YRS
DESIGN OVERTOPPING DISCHARGE	= 14 CFS
DESIGN OVERTOPPING ELEVATION	= 41.51 FT



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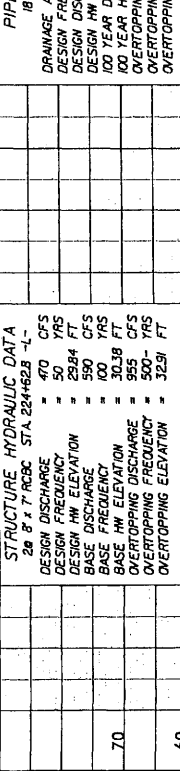
SEE SHEET 20 FOR 'L' PLAN

**STRUCTURE HYDRAULIC DATA**  
 28" x 7" RCB STA. 224+62.8 -L-

DESIGN DISCHARGE	= 470 CFS
DESIGN FLOW VELOCITY	= 50 YRS
DESIGN HW ELEVATION	= 28.84 FT
BASE DISCHARGE	= 590 CFS
BASE FLOW VELOCITY	= 100 YRS
BASE HW ELEVATION	= 30.38 FT
OVERTOPPING DISCHARGE	= 955 CFS
OVERTOPPING FLOW VELOCITY	= 500- YRS
OVERTOPPING ELEVATION	= 32.91 FT

**PIPE HYDRAULIC DATA**  
 18" RCP @ STA. 227+00

DESIGN AREA	= 4.32 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 10 CFS
DESIGN HW ELEVATION	= 4.06 CFS
100 YEAR DISCHARGE	= 13.05 CFS
100 YEAR HW ELEVATION	= 31.95 FT
DESIGN FLOW VELOCITY	= 3.00 FT/S
DESIGN OVERTOPPING FREQUENCY	= 14 CFS
DESIGN OVERTOPPING DISCHARGE	= 14 CFS
DESIGN OVERTOPPING ELEVATION	= 32.95 FT



**LEGEND**  
 DEMOTES FILL IN RETLAND

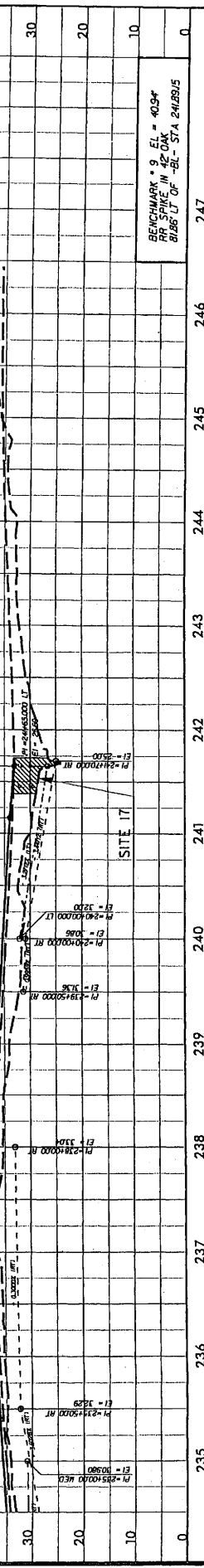
SEE SHEET 21 FOR "L" PLAN

PROJECT REFERENCE NO. R-250A  
 ROADWAY DESIGN ENGINEER  
 HYDRAULIC ENGINEER

PRELIMINARY PLANS  
 FOR THE USE OF CONTRACTORS

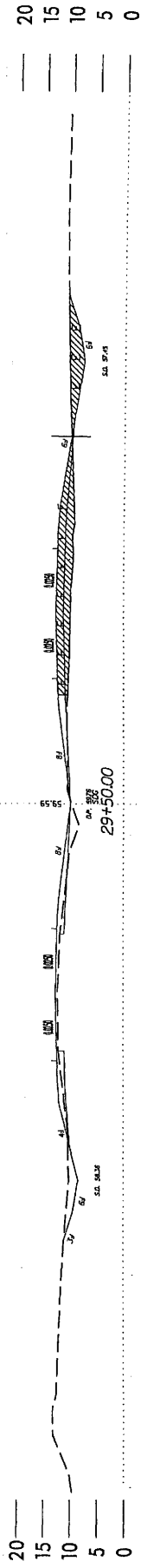
**Carter Burgess**  
 CONSULTING ENGINEERS  
 100 SCHUBERT DRIVE SUITE #202  
 RALEIGH, N.C. 27606

**A.O. & ASSOCIATES, P.C.**  
 Consulting Engineers  
 100 SCHUBERT DRIVE SUITE #202  
 RALEIGH, N.C. 27606

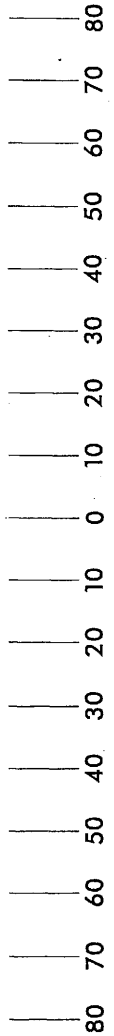


LEGEND  
 BROTES FILL IN WETLAND

PROJECT NUMBER NO. \_\_\_\_\_ SHEET NO. \_\_\_\_\_  
 R-250A SITE 1  
 ROADWAY DESIGNER: \_\_\_\_\_ ENGINEER: \_\_\_\_\_  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION





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**X-SECTION**  
**SITE 1**  
**STA 29+50**

**LEGEND**

 DENOTES FILL IN WETLANDS

 DENOTES EXCAVATION IN WETLANDS



NORTH CAROLINA  
 DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
 34440JJ(R-250A)

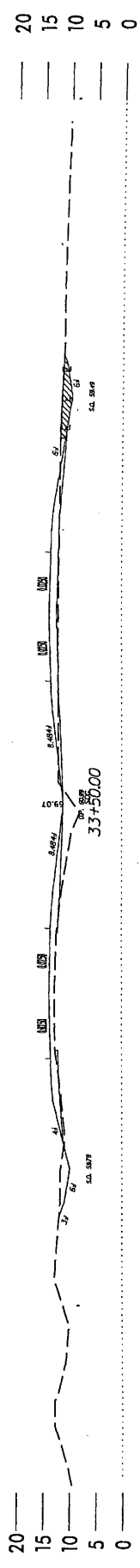
US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)

HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'

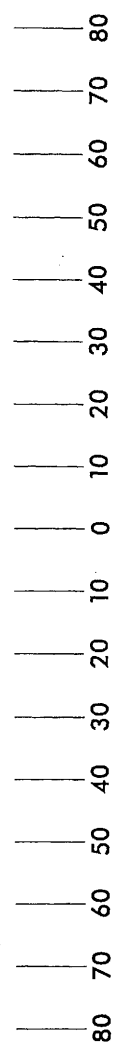
DATE: APR-05

SHEET 1 OF 14


PROJECT REFERENCE NO. **A-290A** SHEET NO. **SITE 2**  
 ROADWAY DESIGNER  
 ENGINEER  
 PRELIMINARY PLANS  
 OR NOT FOR CONSTRUCTION



188



**X-SECTION**  
**SITE 2**  
**STA 33+50**

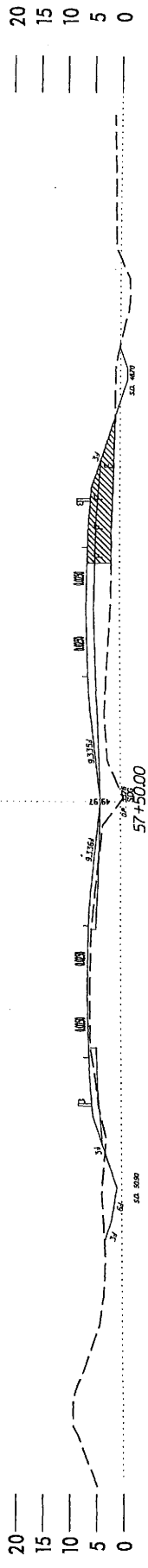
**LEGEND**  
 DENOTES EXCAVATION  
 IN WETLANDS



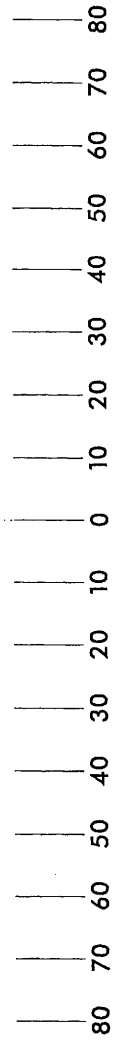
**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
 BEAUFORT COUNTY  
 34440.LUR-250A  
 US 17 FROM SOUTH OF SR 1027 (POSSUM TRACK ROAD)  
 TO SR 449 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET **2** OF **14**



PROJECT REFERENCE NO. SHEET NO.  
 R-2510A SITE 3  
 ROADWAY DESIGN HYDRAULIC  
 ENGINEER  
 PRELIMINARY PLANS  
 FOR STATE USE IN CONSTRUCTION



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X-SECTION  
 SITE 3  
 STA 57+50

LEGEND  
 DENOTES FILL  
 IN WETLANDS



NORTH CAROLINA  
 DEPARTMENT OF HIGHWAYS

BEAUFORT COUNTY  
 34440JJ(R-2510A)

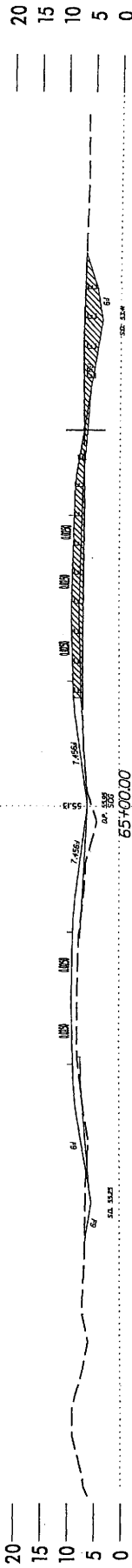
US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)

HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'

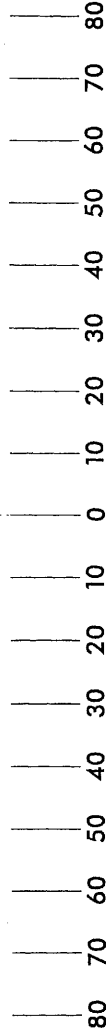
DATE: APR-05

SHEET 3 OF 14

PROJECT NUMBER: P-250A  
 ROADWAY DESIGN ENGINEER: HYDRAULICS ENGINEER  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION



190



**LEGEND**  
 DENOTES FILL IN WETLANDS  
 DENOTES EXCAVATION IN WETLANDS

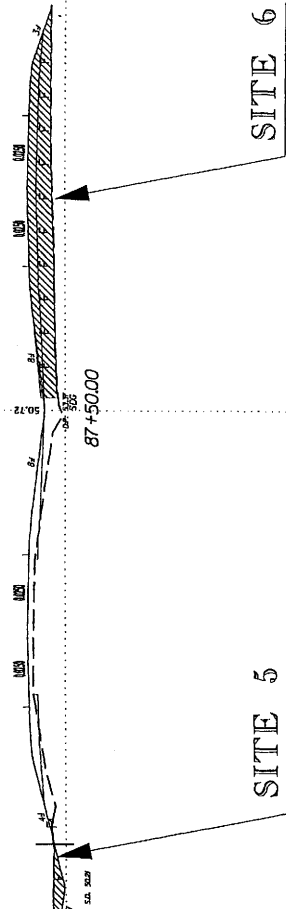
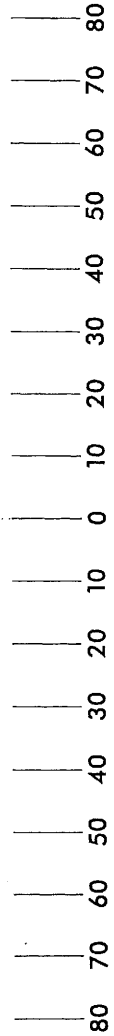
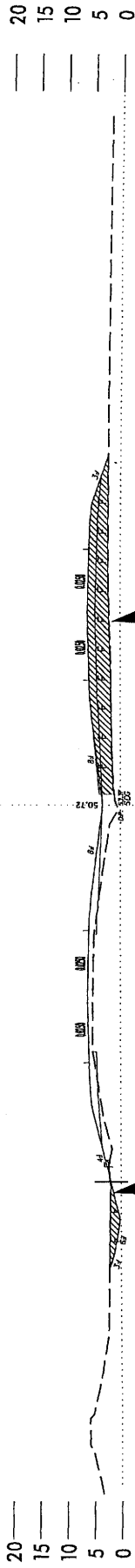
**X-SECTION**  
**SITE 4**  
**STA 65+00**

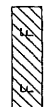
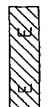


NORTH CAROLINA  
 DEPARTMENT OF HIGHWAYS  
 BEAUFORT COUNTY  
 34440(JR-250A)  
 US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET 4 OF 14

PROJECT REFERENCE NO. **R-2500A** SHEET NO. **SITES 5&6**  
 ROADWAY DESIGN HYDRAULICS ENGINEER  
 PRELIMINARY PLANS  
 FOR THE  
 IMPROVEMENT OF  
 STATE ROUTE 149

191



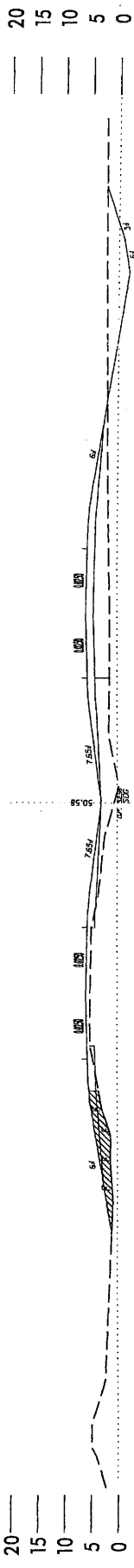
**LEGEND**  
 DENOTES FILL IN WETLANDS  
 DENOTES EXCAVATION IN WETLANDS

**X-SECTION**  
**SITES 5 & 6**  
**STA 87+00**

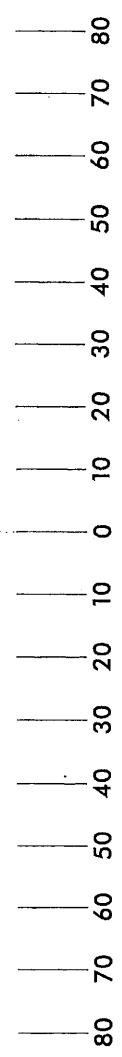


**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
 BEAUFORT COUNTY  
 34440.LIR-2500A  
 US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET **5** OF **14**

PROJECT REFERENCE NO. **A-250A**  
 ROADWAY DESIGN ENGINEER  
 SHEET NO. **SITE 7**  
 PROVALECK ENGINEER  
 PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION



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**X-SECTION**  
**SITE 7**  
**STA 104+00**

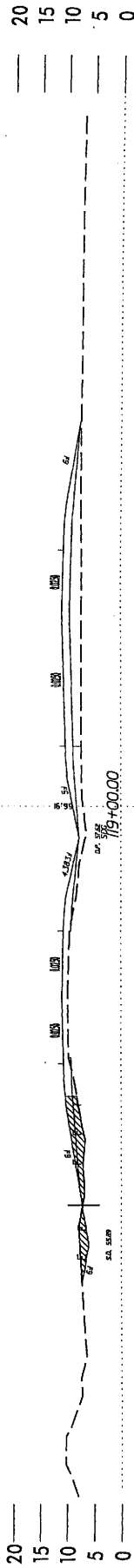
**LEGEND**  
 DENOTES FILL  
 IN WETLANDS



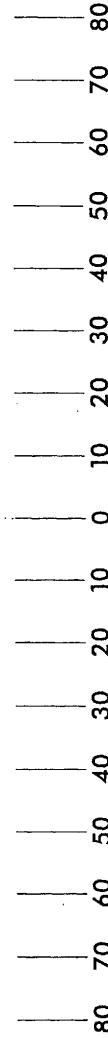
**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
 BEAUFORT COUNTY  
 34440.LR(250A)  
 US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET **6** OF **14**



PROJECT REFERENCE NO. **R-25(0A)** SHEET NO. **SITE 9**  
 ROADWAY DESIGN HYDRAULICS  
 ENGINEER  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION



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**X-SECTION**

**SITE 9**

**STA 119+00**



**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**

BEAUFORT COUNTY  
 34440J(R-25(0A))


US 17 FROM SOUTH OF SR 1127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)


HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'

DATE: APR-05

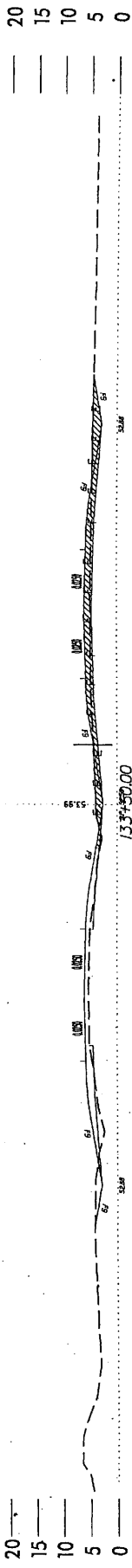
SHEET **8** OF **14**

**LEGEND**

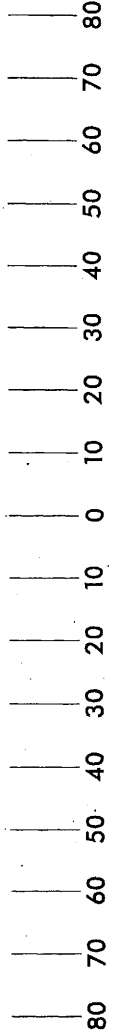
 DENOTES FILL  
 IN WETLANDS

 DENOTES EXCAVATION  
 IN WETLANDS

PROJECT REFERENCE NO. **R-250A**  
 ROADWAY DESIGN ENGINEER  
 SHEET NO. **51E 10**  
 HYDRAULICS ENGINEER  
 PRELIMINARY PLANS  
 AS NOT SHOWN FOR CONSTRUCTION



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**X-SECTION**  
**SITE 10**  
**STA 133+50**

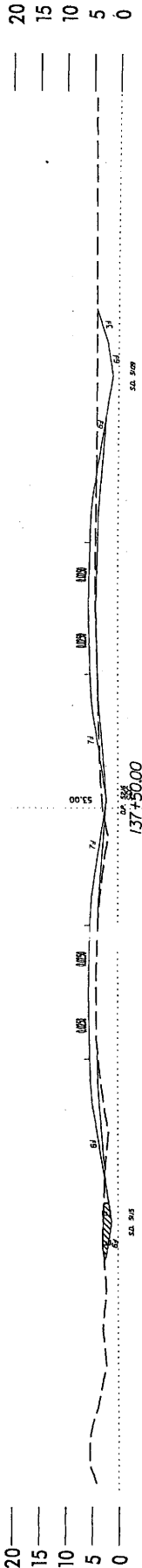
**LEGEND**

	DENOTES FILL IN WETLANDS
	DENOTES EXCAVATION IN WETLANDS

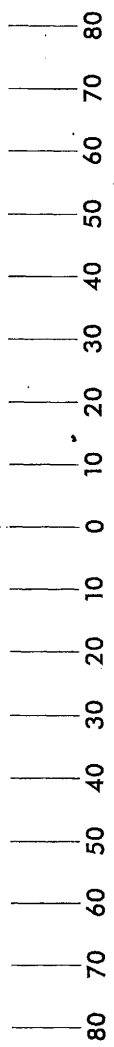


**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
 BEAUFORT COUNTY  
 34440(JR-250A)  
 US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 145 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET **9** OF **14**

PROJECT REFERENCE NO. R-2510A  
 ROADWAY DESIGN ENGINEER  
 SHEET NO. SITE II  
 MECHANICAL ENGINEER  
 PRELIMINARY PLANS  
 FOR STATE USE AND CONSTRUCTION



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X-SECTION  
 SITE 11  
 STA 137+50

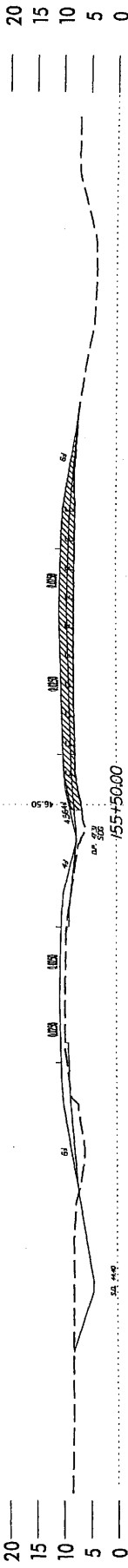
LEGEND  
 DENOTES EXCAVATION  
 IN WETLANDS



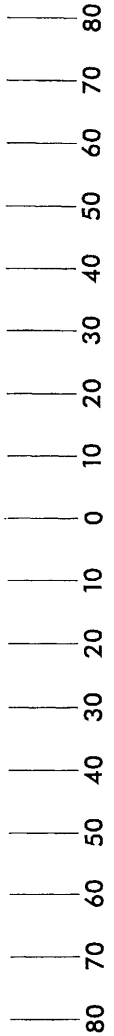
NORTH CAROLINA  
 DEPARTMENT OF HIGHWAYS  
 BEAUFORT COUNTY  
 34440(JUR-2510A)  
 US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET 10 OF 14



PROJECT REFERENCE NO. R-2510A  
 ROADWAY DESIGN ENGINEER  
 SHEET NO. SITE 12  
 METALLIC ENGINEER  
 PRELIMINARY PLANS FOR THE STATE OF NORTH CAROLINA



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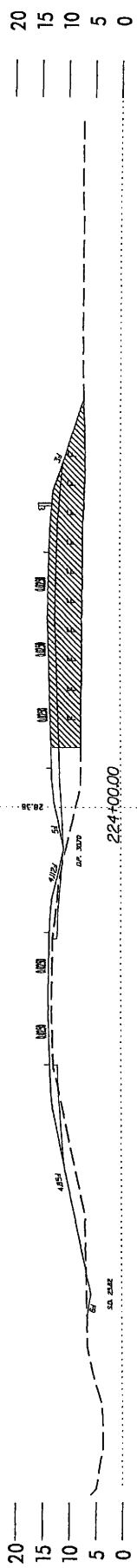
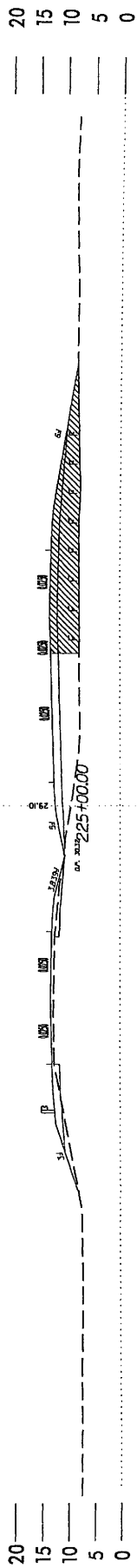
X-SECTION  
 SITE 12  
 STA 155 + 50

LEGEND  
 DENOTES FILL IN WETLANDS

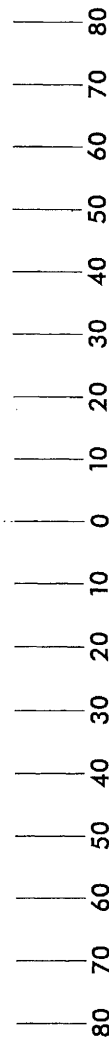


NORTH CAROLINA  
 DEPARTMENT OF HIGHWAYS  
 BEAUFORT COUNTY  
 34440LJ(R-2510A)  
 US 17 FROM SOUTH OF SR 1027 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET 11 OF 14

PROJECT REFERENCE NO. R-2250A SHEET NO. SITE 15  
 ROADWAY DESIGN HYDRAULICS  
 ENGINEER ENGINEER  
 PRELIMINARY PLANS  
 FOR THE USE OF CONSTRUCTION




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**X-SECTION**

**SITE 15**  
**STA 224+00 &**  
**STA 225+00**

**LEGEND**  
 DENOTES FILL  
 IN WETLANDS

**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**

BEAUFORT COUNTY  
 34440(JR-250A)

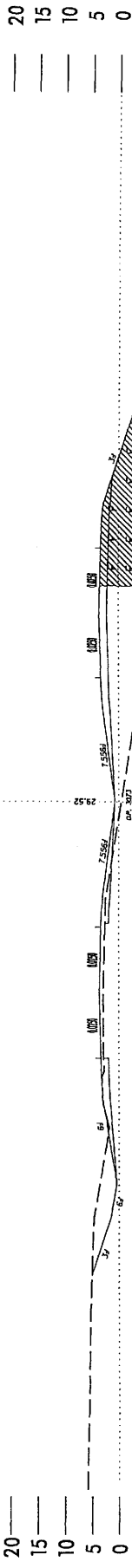
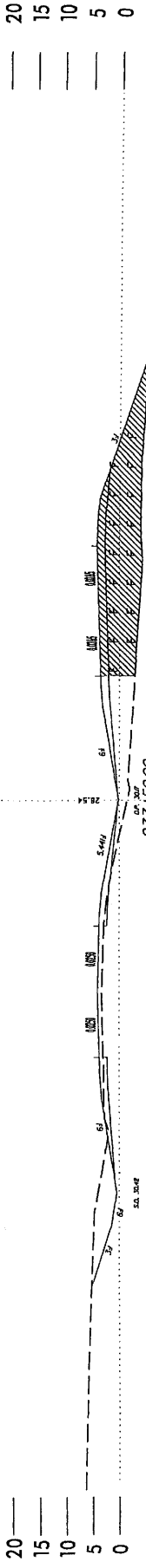
US 17 FROM SOUTH OF SR 127 (POSSUM TRACK ROAD)  
 TO SR 849 (PRICE ROAD)

HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'

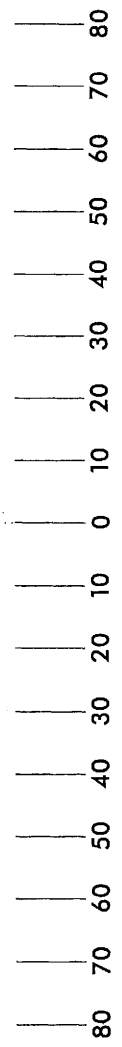
DATE: APR-05

SHEET 12 OF 14

PROJECT REFERENCE NO. **A-250A** SHEET NO. **SITE 16**  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 NOT TO BE USED FOR CONSTRUCTION



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**X-SECTION**  
 SITE 16  
 STA 231+00 &  
 STA 233+50

**LEGEND**  
 DENOTES FILL  
 IN WETLANDS



**NORTH CAROLINA**  
**DEPARTMENT OF HIGHWAYS**  
 BEAUFORT COUNTY  
 34440(LIR-250A)  
 US 17 FROM SOUTH OF SR 1027 (POSSUM TRACK ROAD)  
 TO SR 149 (PRICE ROAD)  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 20'  
 DATE: APR-05  
 SHEET 13 OF 14

