



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 12, 2004

MEMORANDUM TO: Mr. Terry R. Gibson, PE
Division 6 Engineer

FROM: Philip S. Harris, III, P.E., CPM, Manager
Office of the Natural Environment
Project Development and
Environmental Analysis Branch *Philip S. Harris, III*

SUBJECT: Bladen County, Widening of NC 87; State Project Number
6439001T; T.I.P. No. R-2562C and D

Attached is the U. S. Army Corps of Engineers 404 Individual Permit and the Division of Water Quality 401 Water Quality Certification for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

cc: Mr. Art McMillan, P.E.
Mr. Jay Bennett, P.E.
Mr. David Chang, P.E.
Mr. Randy Garris, P.E.
Mr. Greg Perfetti, P.E.
Mr. Mark Staley
Mr. Omar Sultan
Mr. John F. Sullivan, FHWA
Mr. Jim Rerko, Division 6 DEO

Project Commitments
NC 87
WIDENING OF NC 87, BLADEN COUNTY
Federal Aid Project No. NHF-17(7)
State Project Nos. 6439001T
TIP Project No. R-2562C and D

In addition to the standard Section 404 Individual Permit (IP) General Conditions and Section 401 Water Quality Certification (WQC) Conditions, the following special commitments have been agreed to by NCDOT:

Commitments Developed through Project Development

1. Construction related impacts of the proposed action on water resources will be minimized through erosion and sedimentation control measures as set forth in NCDOT's Best Management Practice for the Protection of Surface Waters
2. To reduce storm water runoff and the potential to introduce low levels of pollutant concentrations into surface water, grass swales will be used where practical.
3. Large fills and drainage features will be designed to preserve the natural environment.
4. The proposed project will be designed so the flood way can carry the 1 00-year flood without increasing the floodwater elevation more than one foot.
5. All unnecessary construction activity will be kept out of wetland areas.
6. A wetland mitigation plan for the project will be developed in conjunction with the permit application.
7. In consultation with SHPO, NCDOT committed to the following during final design phase of the project:
 - Walnut Grove Plantation -Any landscape material between the house and the right-of-way will not be removed. A median crossover near the Beth Carr Presbyterian Church will be investigated during final design;
 - W.H. White House -The removal of any trees within the temporary construction easement will be avoided. Any landscaping materials removed by the temporary construction easement will be replaced. A median crossover in the vicinity of the property will be investigated during final design;
 - DeVane MacQueen House -A median crossover in the vicinity of the house will be investigated during final design;
 - Purdie Methodist Church -A median crossover between SA 1344 and SA 1342, and as close as possible to the church, will be investigated during final design

Commitments Developed through Permitting

Division 6 Construction

The permittee shall maintain the existing right-of-way (ROW) in front of the W.H. White House, Robeson House (Walnut Grove Plantation), Purdie Methodist Church and Porter-Allen House Historic properties. No construction encroachment into these properties shall occur outside of the existing ROW. The 60-inch Oak located on the W.H. White House shall be protected from disturbance by the use of an erected barrier fence. All removed vegetation along the front of the W.H. White House shall be replaced in kind after final grading is completed to maintain a visual barrier from the roadway.

PDEA- Office of Natural Environment, Division 6 Construction, Roadside Environmental

The permittee shall mitigate for 189 linear feet of unavoidable impact to streams with important aquatic function, associated with this project, by completing 189 linear feet of onsite stream restoration, as described in the permit application. The stream restoration shall be constructed by removal of the perched box culvert at Site 2, Section D and construct a new culvert that will be depressed to allow for fish passage.

The permittee shall mitigate for 0.27 acres of unavoidable impact to riverine wetlands, associated with this project, by removing the existing culvert at Site 7, Section C and constructing a 210 foot long bridge, thereby restoring 0.27 acres of riverine marsh wetlands in the Lumber River Basin. This restoration shall be constructed as described in the permit application. The permittee shall complete an as-built survey of the mitigation site within sixty days of completion of the site construction. The permittee shall document the final grade elevations as compared to the existing undisturbed marsh grades, water surface elevations, vegetation plantings, and any structures installed. The permittee shall also include in the as-built survey: photo documentation at representative segments and structures; and a plan view diagram. The permittee shall photo monitor the mitigation site for one year following completion of the highway project. Success shall be determined by comparing vegetation and hydrology in the restored site with the adjacent undisturbed wetland. If after one year the hydrology and vegetation do not mimic the reference site, remediation may be necessary and monitoring of the mitigation site extended.

Compensatory mitigation for the unavoidable impacts to 1.92 acres of riverine wetlands, 2.39 acres of non-riverine wetlands, and 440 linear feet of stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 5 August 2004 from William D. Gilmore, EEP Transition Manager. The EEP will provide 19.2 acres of preservation of riverine wetlands, 23.9 acres of non-riverine wetlands, and 4,400 linear feet of stream preservation in the Southern Inner Coastal Plain Eco-Region at the Great Coharie Site in Sampson County that has been acquired and protected by the EEP. Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide a minimum of 1.92 acres (1.01 acres in the Cape Fear Basin, 0.91 acres in the Lumber River Basin) of restoration of riverine wetlands, 2.39 acres (0.36 acres in the Cape Fear Basin, 2.03 acres in the Lumber River Basin) of restoration of non-riverine wetlands, and 440 linear feet (223 linear feet in the Cape Fear Basin, 217 linear feet in the Lumber River Basin) of restoration of Warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030005) and in the Lumber River Basin (Hydrologic Cataloging Unit 03040203), respectively, by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

Division 6 Construction

To ensure that all borrow and waste activities occur on high ground and do not result in loss or 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 ensure that all such areas comply with the preceding condition (#9) 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 preceding condition (#9). 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.

The permittee shall maintain the existing right-of-way (ROW) in front of the W.H. White House, Robeson House (Walnut Grove Plantation), Purdie Methodist Church and Porter-Allen House Historic properties. No construction encroachment into these properties shall occur outside of the existing ROW. The 60-inch Oak located on the W.H. White House shall be protected from disturbance by the use of an erected barrier fence. All removed vegetation along the front of the W.H. White House shall be replaced in kind after final grading is completed to maintain a visual barrier from the roadway.

The outside buffer, wetland or water boundary located within the construction corridor approved by this

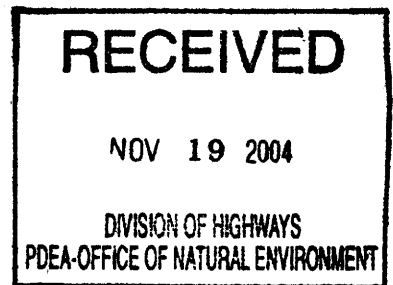
authorization shall be clearly marked by orange fabric fencing prior to any land clearing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.

Feulner



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890



November 18, 2004

Regulatory Division

Action ID: 200200048; Tip No. R-2562C&D

Dr. Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
N.C. Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Dr. Thorpe:

In accordance with the written request of July 22, 1004, and the ensuing administrative record, enclosed is a permit to directly discharge dredged and/or fill material into Huckleberry Swamp, Black Swamp, Reedy Meadow Swamp and unnamed tributaries to the Cape Fear River and Bakers Creek to facilitate the widening of NC 87, Transportation Improvement Project (TIP) R-2562C&D, State Project Number 6.439001T, in Bladen County, North Carolina. The proposed roadway is approximately 10.3 miles in length and begins at the existing 5-lane divided highway at NC 131 (LAT. DD 34.7313; LONG DD 78.7871), and proceeds on existing alignment to the existing 4-lane divided facility at the Elizabethtown Bypass (LAT. DD 34.6435; LONG DD 78.6783).

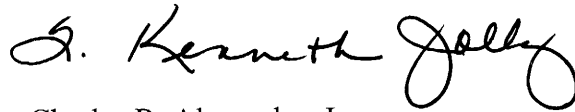
If any change in the authorized work is required because of unforeseen or altered conditions or for any other reason, the plans revised to show the change must be sent promptly to this office. Such action is necessary, as revised plans must be reviewed and the permit modified.

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 2007.
- 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.

Should you have questions, contact Mr. Richard K. Spencer of my Wilmington Field Office regulatory staff at telephone (910) 251-4172.

Sincerely,



for Charles R. Alexander, 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

Mr. Ronald Miklulak, Chief
Wetlands Section - Region IV
Water Management Division
U.S. Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

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. Doug Huggett
Division of Coastal Management
North Carolina Department of
Environment and Natural Resources
1638 Mail Service Center
Raleigh, North Carolina 27699-1638

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

Mr. William D. Gilmore, P.E.
EEP Transition Manager
Ecosystem Enhancement Program
1652 Mail Service Center
Raleigh, NC 27699-1652

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

RECEIVED
NOV 20 2007
U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT OFFICE

DEPARTMENT OF THE ARMY PERMIT

NC Department of Transportation

Permittee _____

200200048

Permit No. _____

USAED, Wilmington

Issuing Office _____

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:

Directly discharge dredged and/or fill material into Huckleberry Swamp, Black Swamp, Reedy Meadow Swamp and unnamed tributaries to the Cape Fear River and Bakers Creek to facilitate the widening of NC 87, Transportation Improvement Project (TIP) R-2562C&D, State Project Number 6.439001T.

Project Location: In the Cape Fear River and Lumber River basin, beginning at the existing 5-lane divided highway at NC 131 (LAT. DD 34.7313; LONG DD 78.7871), and proceeds on existing alignment to the existing 4-lane divided facility at the Elizabethtown Bypass (LAT. DD 34.6435; LONG DD 78.6783), Bladen County, North Carolina.

Permit Conditions:

General Conditions:

December 31, 2007

1. The time limit for completing the work authorized ends on _____ . 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 enclosed sheet.

Further Information:

1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

() 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.



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

October 29, 2004

Dr. Gregory J. Thorpe, Ph.D., 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,
Proposed widening of NC 87 from NC 131 to NC 41 (NC 87 Business) in Bladen County.
WQC Project No. 041253

Attached hereto is a copy of Certification No. 3483 issued to The North Carolina Department of Transportation dated October 29, 2004.

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
Richard Spencer, Corps of Engineers Wilmington Field Office
Ken Avcrite, DWQ Fayetteville Regional Office
Bill Gilmore, Ecosystem Enhancement Program
File Copy

APPROVAL OF 401 Water Quality Certification and 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. Section .0500. This certification authorizes the NCDOT to place fill material in 3.47 acres of jurisdictional wetlands, 0.01 acres of excavation of jurisdictional wetlands, 1.10 acres of mechanized clearing of jurisdictional wetlands, and fill of 1280 linear feet of streams in Bladen County. The project shall be constructed pursuant to the application dated July 22, 2004, to construct NC 87 widening from NC 131 to NC 41 (NC 87 Business) in Bladen County. The approved design is that submitted in your application dated July 22, 2004. The authorized impacts are as described below:

Wetland Impacts in the Lumber River Basin

Section	Riverine (acres)	Non-Riverine (acres)	Total (acres)
Section C			
Site 1	0.003	0.000	0.003
Site 6	0.000	0.530	0.530
Site 7	1.180	1.500	2.680
Section D			
Total	1.18	2.03	3.21

Wetland Impacts in the Cape Fear River Basin

Section	Riverine (acres)	Non-Riverine (acres)	Total (acres)
Section C			
Site 2	0.010	0.000	0.010
Site 3	0.000	0.008	0.008
Section D			
Site 1	0.000	0.020	0.020
Site 2	1.000	0.000	1.000
Site 4	0.000	0.070	0.070
Site 5	0.000	0.180	0.180
Site 6	0.000	0.080	0.080
Total	1.01	0.36	1.37

Surface Water Impacts for the Lumber River Basin

Section	Stream Impacts (linear feet)	Ponds (acres)	On-Site Natural Channel Design (linear feet)	Mitigation Required
Section C				
Site 1	32	0	0	0
Site 6	217	0	0	217
Site 7	0	0	0	0
Total	249	0	0	217

Surface Water Impacts for the Cape Fear River Basin

Section	Stream Impacts (linear feet)	Ponds (acres)	On-Site Natural Channel Design (linear feet)	Mitigation Required
Section C				
Site 3	210	0.00	0	0
Site 4	272	0.00	0	0
Site 5	223	0.00	0	223
Section D				
Site 2	189	0.00	189	0
Site 3	103	0.00	0	0
Site 7	0	0.22	0	0
Site 8	34	0.46	0	0
Total	1031	0.68	189	223

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, 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. Construction will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge. 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 standard.
 - a. The erosion and sediment control measures for the project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Sediment and Erosion Control Planning and Design Manual. These 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.
 - b. For borrow pit sites, the erosion and sediment control measures must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Surface Mining Manual. 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. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. 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 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.

9. Compensatory mitigation for impacts to 2.19 acres of riverine wetlands and 2.39 acres of non-riverine wetlands shall be done. Applying a replacement ration of 2:1, total mitigation for 4.38 acres of riverine wetlands and 4.58 acres of non-riverine wetlands shall be provided as described below:

Onsite Compensatory Mitigation

0.27 acres of restoration of jurisdictional riverine wetlands shall be provided through onsite compensatory mitigation. The mitigation shall be constructed in accordance with your design included in the application dated July 22, 2004 by removing the exiting culvert and fill at Site 7, Section C of the project and constructing a 210 foot long bridge. NCDOT shall submit a complete as-built survey for the mitigation site within sixty of the completion of the site construction. The as built shall also include immediately adjacent wetland contours to verify the site was constructed to match the site's natural topography. The site shall photo monitor the site for one year after the project is completed, and submitted to the NC Division of Water Quality for written approval. The NC Division of Water Quality using the submitted information and comparing it to the vegetation and hydrology of immediately adjacent wetlands shall determine success. If after one year, the hydrology and vegetation do not mimic the immediately adjacent wetlands, remediation and an extension of the monitoring may be required.

Offsite Compensatory Mitigation

Compensatory mitigation for the unavoidable impacts to 1.92 acres of riverine wetlands (1.01 acres in the Hydrologic Cataloging Unit 03030005 and 0.91 in the Hydrologic Cataloging Unit 03040203), and 2.39 acres of non-riverine wetlands (0.36 acres in the Hydrologic Cataloging Unit 03030005 and 2.03 in the Hydrologic Cataloging Unit 03040203), associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 5 August 2004, 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.

10. Compensatory mitigation for impacts to 629 linear feet of streams shall be done at a replacement ration of 1:1. Applying a replacement ration of 1:1, total mitigation for 629 linear feet of streams shall be provided as described below:

Onsite Compensatory Mitigation

189 linear feet of onsite mitigation shall be provided for unavoidable impacts to streams through the construction of the onsite stream relocation at Site 2, Section D of the project. The stream restoration shall be constructed by removal of the perched box culvert at Site 2, Section D and construct a new culvert that will be depressed to allow for fish passage.

Offsite Compensatory Mitigation

Compensatory mitigation for the unavoidable impacts to 440 linear feet of streams (223 linear feet in the Hydrologic Cataloging Unit 03030005 and 217 linear feet in the Hydrologic Cataloging Unit 03040203) associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 5 August 2004, 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.

11. 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.

12. 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.
13. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
14. 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.
15. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
16. 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.
17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
18. 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 July 22, 2004.
19. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
20. 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). Before modifying the certification, DWQ shall notify NCDOT and the US Army Corps of Engineers, provide public notice in accordance with 15A NCAC 2H.0503 and provide opportunity for public hearing in accordance with 15A NCAC 2H.0504. Any new or revised conditions shall be provided to NCDOT in writing, shall be provided to the United States Army Corps of Engineers for reference in any permit issued pursuant to Section 404 of the Clean Water Act, and shall also become conditions of the 404 Permit for the project.
21. 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.
22. 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.
23. Culverts that are less than 48-inch in diameter should be buried to a depth equal to or greater than 20% of their size to allow for aquatic life passage. Culverts that are 48-inch in diameter or larger should be buried at least 12 inches below the stream bottom to allow natural stream bottom material to become established

in the culvert following installation and to provide aquatic life passage during periods of low flow. These measurements must be based on natural thalweg depths.

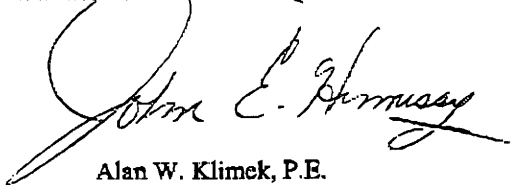
24. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
25. 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.

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 29th day of October 2004

DIVISION OF WATER QUALITY



Alan W. Klimek, P.E.
Director

WQC No. 3483

DWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. 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: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer 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 _____

SPECIAL CONDITIONS (Action ID. 2002-00048; NCDOT/TIP R-2562)

1. Failure to institute and carry out the details of the following special conditions below will result in a directive to cease all ongoing and permitted work within waters of the United States, including wetlands, associated with the permitted project, or such other remedies and/or fines as the U.S. Army Corps of Engineers District Commander or his authorized representatives may seek.

2. All work authorized by this permit must be performed in strict compliance with the attached plans, which are a part of this permit. 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. The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any deviation in the construction design plans shall be brought to the attention of the Corps of Engineers, Mr. Richard Spencer, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands and any modification to the permit plans must be approved by the Corps of Engineers prior to implementation.

3. The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Mr. Richard Spencer, Wilmington Regulatory Field Office, 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 notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meetings in order to provide that individual with ample opportunity to schedule and participate in the required meetings. One copy of the final half-size construction drawings shall be furnished to the Corps of Engineers, Mr. Richard Spencer, Wilmington Regulatory Field Office prior to the pre-construction meeting.

4. 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. Copies of this permit and any modifications authorized by the USACE shall be available for review at the construction site at all times. All violations, including non-compliance of these conditions, of the authorized permit shall be reported to the District Engineer within 24 hours of the violation.

5. The permittee shall maintain the existing right-of-way (ROW) in front of the W.H. White House, Robeson House (Walnut Grove Plantation), Purdie Methodist Church and Porter-Allen House Historic properties. No construction encroachment into these properties shall occur outside of the existing ROW. The 60-inch Oak located on the W.H. White House shall be protected from disturbance by the use of an erected barrier fence. All

removed vegetation along the front of the W.H. White House shall be replaced in kind after final grading is completed to maintain a visual barrier from the roadway.

6. The permittee shall mitigate for 189 linear feet of unavoidable impact to streams with important aquatic function, associated with this project, by completing 189 linear feet of onsite stream restoration, as described in the permit application. The stream restoration shall be constructed by removal of the perched box culvert at Site 2, Section D and construct a new culvert that will be depressed to allow for fish passage.

7. The permittee shall mitigate for 0.27 acres of unavoidable impact to riverine wetlands, associated with this project, by removing the existing culvert at Site 7, Section C and constructing a 210 foot long bridge, thereby restoring 0.27 acres of riverine marsh wetlands in the Lumber River Basin. This restoration shall be constructed as described in the permit application. The permittee shall complete an as-built survey of the mitigation site within sixty days of completion of the site construction. The permittee shall document the final grade elevations as compared to the existing undisturbed marsh grades, water surface elevations, vegetation plantings, and any structures installed. The permittee shall also include in the as-built survey: photo documentation at representative segments and structures; and a plan view diagram. The permittee shall photo monitor the mitigation site for one year following completion of the highway project. Success shall be determined by comparing vegetation and hydrology in the restored site with the adjacent undisturbed wetland. If after one year the hydrology and vegetation do not mimic the reference site, remediation may be necessary and monitoring of the mitigation site extended.

8. Compensatory mitigation for the unavoidable impacts to 1.92 acres of riverine wetlands, 2.39 acres of non-riverine wetlands, and 440 linear feet of stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 5 August 2004 from William D. Gilmore, EEP Transition Manager. The EEP will provide 19.2 acres of preservation of riverine wetlands, 23.9 acres of non-riverine wetlands, and 4,400 linear feet of stream preservation in the Southern Inner Coastal Plain Eco-Region at the Great Coharie Site in Sampson County that has been acquired and protected by the EEP. Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide a minimum of 1.92 acres (1.01 acres in the Cape Fear Basin, 0.91 acres in the Lumber River Basin) of restoration of riverine wetlands, 2.39 acres (0.36 acres in the Cape Fear Basin, 2.03 acres in the Lumber River Basin) of restoration of non-riverine wetlands, and 440 linear feet (223 linear feet in the Cape Fear Basin, 217 linear feet in the Lumber River Basin) of restoration of Warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030005) and in the Lumber River Basin (Hydrologic Cataloging Unit 03040203), respectively, by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

9. 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, or 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 waters or wetlands outside the permitted area.

10. To ensure that all borrow and waste activities occur on high ground and do not result in loss or 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 ensure that all such areas comply with the preceding condition (#9) 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 preceding condition (#9). 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.

11. The permittee shall comply with the conditions specified in the water quality certification, No. 3483, issued by the North Carolina Division of Water Quality on 28 October 2004.

12. 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.

13. 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. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. 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.

14. 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.

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

16. 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.

17. If the permittee discovers any previously unknown historic or archeological remains while accomplishing the authorized work, he shall immediately stop work and notify the Wilmington District Engineer who will initiate the required State/Federal coordination.

18. The permittee shall maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without transferring it to a third party.

19. 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.

20. This Department of the Army permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

21. In issuing this permit, the Federal Government does not assume any liability for:

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 Federal activities initiated on behalf of the general public.

c. Damages to other permitted or un-permitted activities or structures caused by the authorized activity.

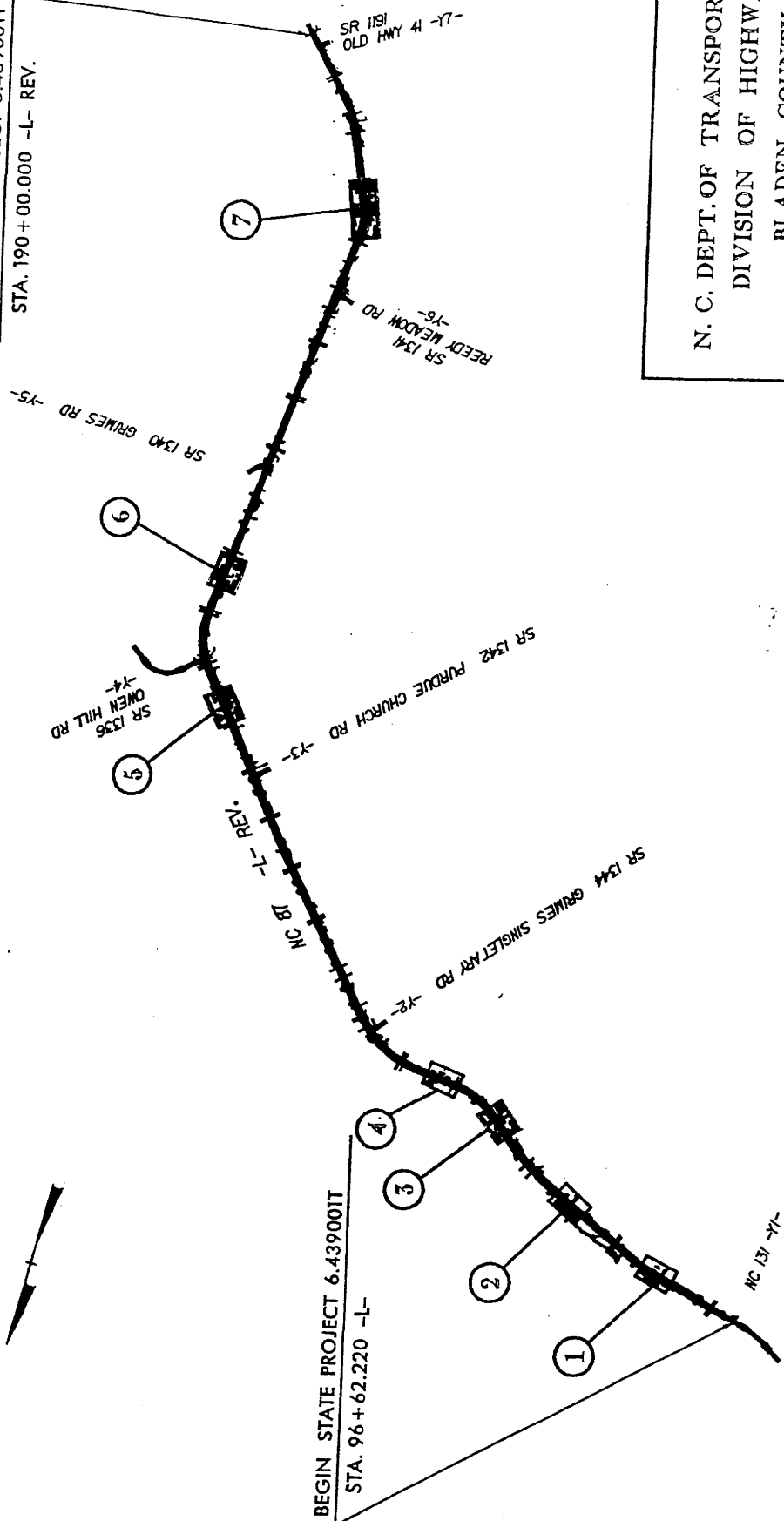
d. Design and construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

SITE MAP

END STATE PROJECT 6.439001T
STA. 190+00.000 -L- REV.

BEGIN STATE PROJECT 6.439001T
STA. 96+62.220 -L-



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY

PROJECT: 6.439001T (R-2562C)

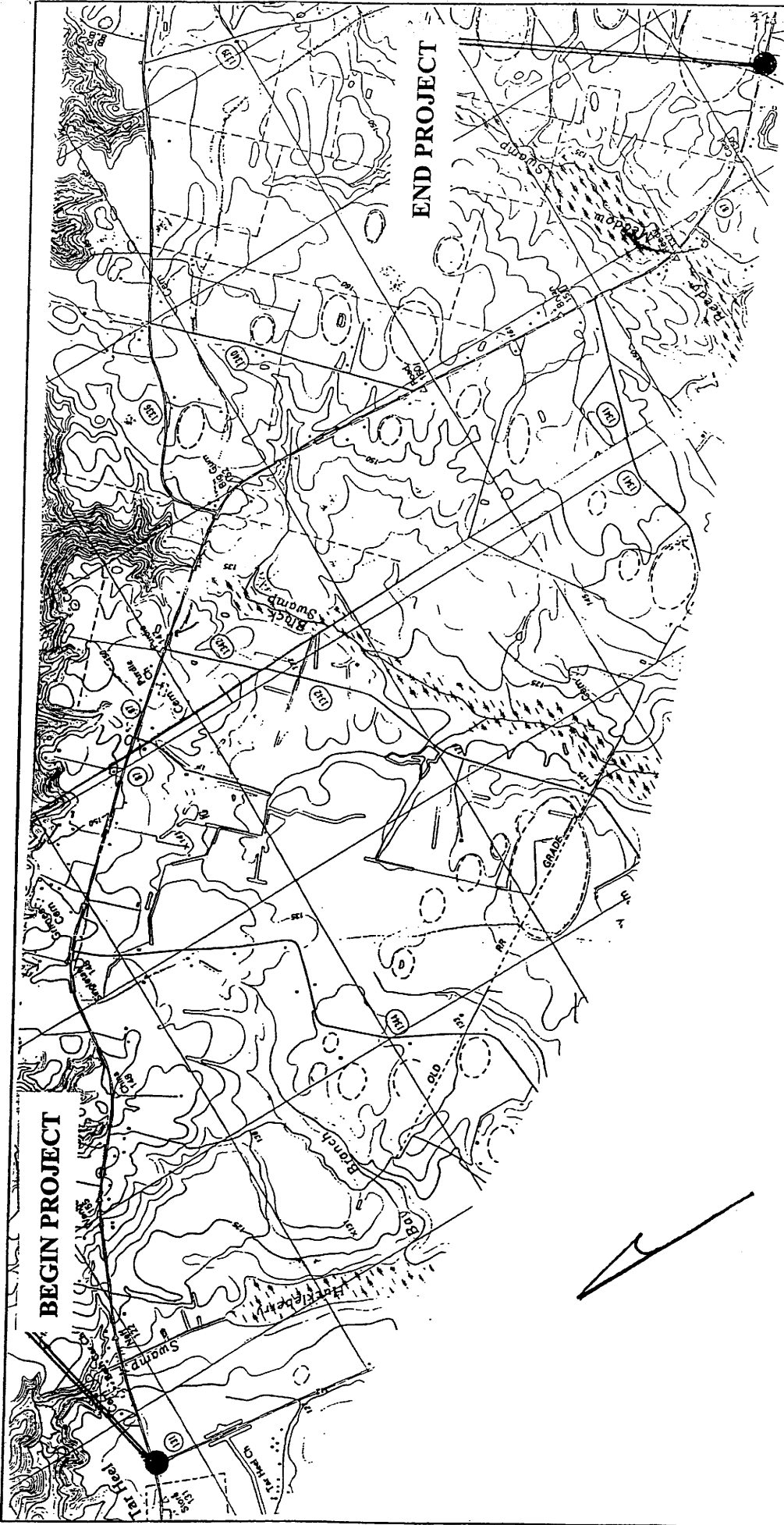
NC 87 FROM NC 131
TO SR 1191

SHEET 1 OF 21

1 DENOTES SITE NUMBER

SCALE 1:40000

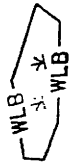




NCDOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)
NC 87 FROM NC 131 TO SR 1191
SHEET 2 OF 2

VICINITY MAP

WLB — WETLAND BOUNDARY

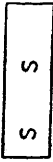


WETLAND

F F DENOTES FILL IN WETLANDS



S S DENOTES IMPACTED SURFACE WATERS



E E DENOTES EXCAVATION IN WETLANDS



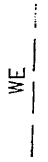
DENOTES MECHANIZED CLEARING



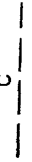
← FLOW DIRECTION



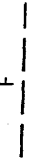
WE — EDGE OF WATER



C — PROP. LIMIT OF CUT



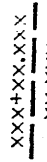
F — PROP. LIMIT OF FILL



▲ PROP. RIGHT OF WAY



XXXXXXX
XX.XXX



— TDE — TEMP. DRAINAGE EASEMENT

— PDE — PERM. DRAINAGE EASEMENT

∇ --- WATER SURFACE

PROPOSED CULVERT



PROPOSED PIPE CULVERT



(DASHED LINES DENOTE EXISTING STRUCTURES)

☼ SINGLE TREE



— Woods LINE



■ DRAINAGE INLET



● RIP RAP



LEGEND

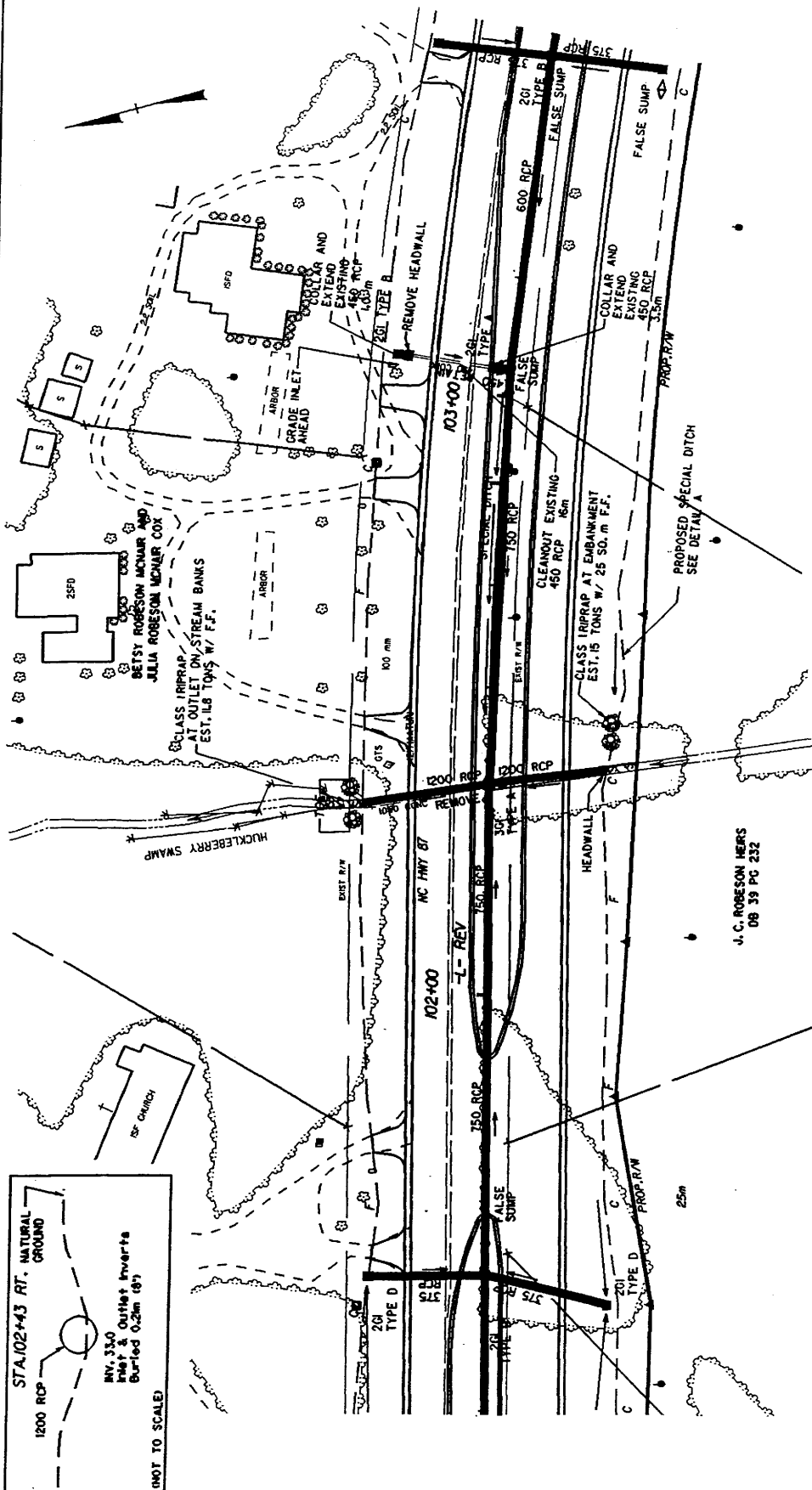
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY

PROJECT: 6.439001T (R-2562C)

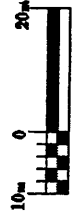
NC 87 FROM NC 131

TO SR 1191

SHEET 3 OF 8 (



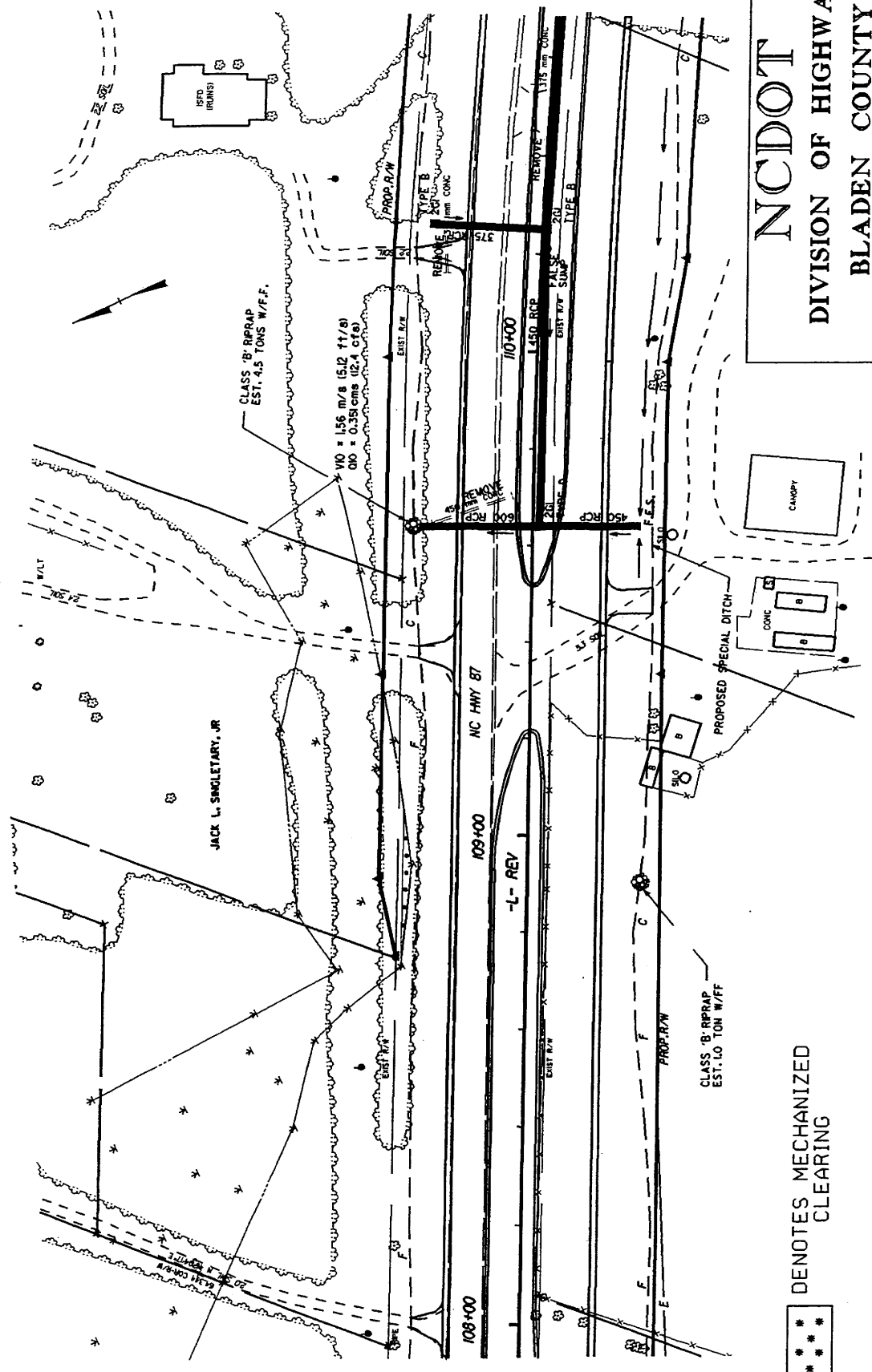
 DENOTES FILL IN SURFACE WATER
 DENOTES MECHANIZED CLEARING



PLAN VIEW

SITE 1

NCDOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
 PROJECT: 34467.1.1 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191
 SHEET 4 OF 21



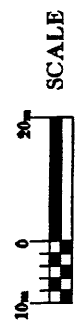
NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY

PROJECT: 34467.1.1 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191

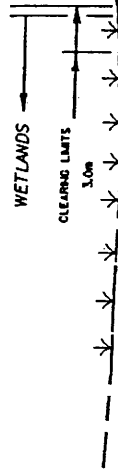
SHEET 5 OF 21

PLAN VIEW
 SITE 2

 DENOTES MECHANIZED
 CLEARING



-L- REV.



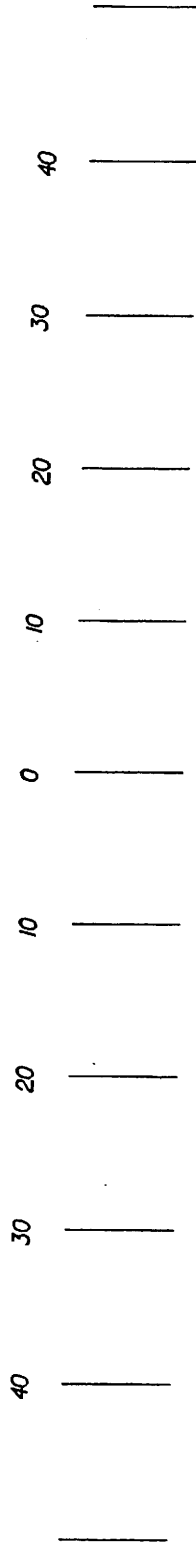
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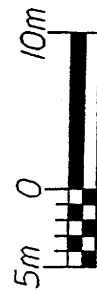
35

TYPICAL SECTION FROM 108+80 to 109+20
(4:1 max side slopes, eliminate need for G/R & wider shoulder)

35



X-SECTION



HORIZONTAL SCALE



VERTICAL SCALE

SITE 2

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)
NC 87 FROM NC 131 TO SR 1191

SHEET 6 OF 7

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY

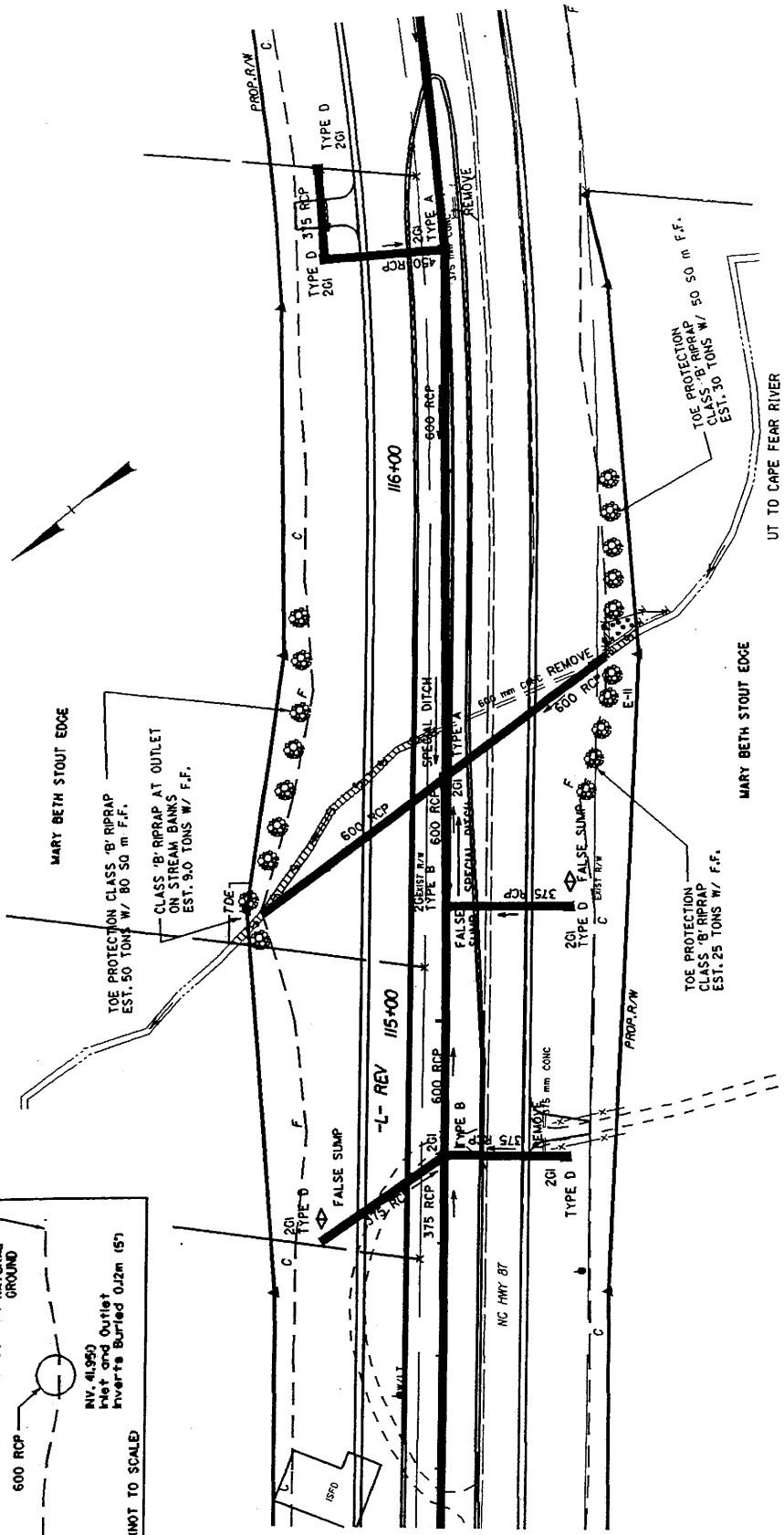
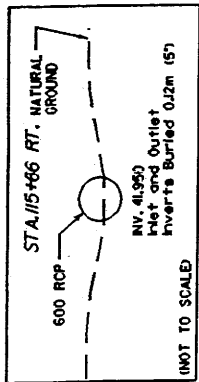
PROJECT: 34467.1.1 (R-2562C)


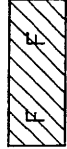
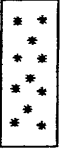
NC 87 FROM NC 131 TO SR 1191

SHEET OF

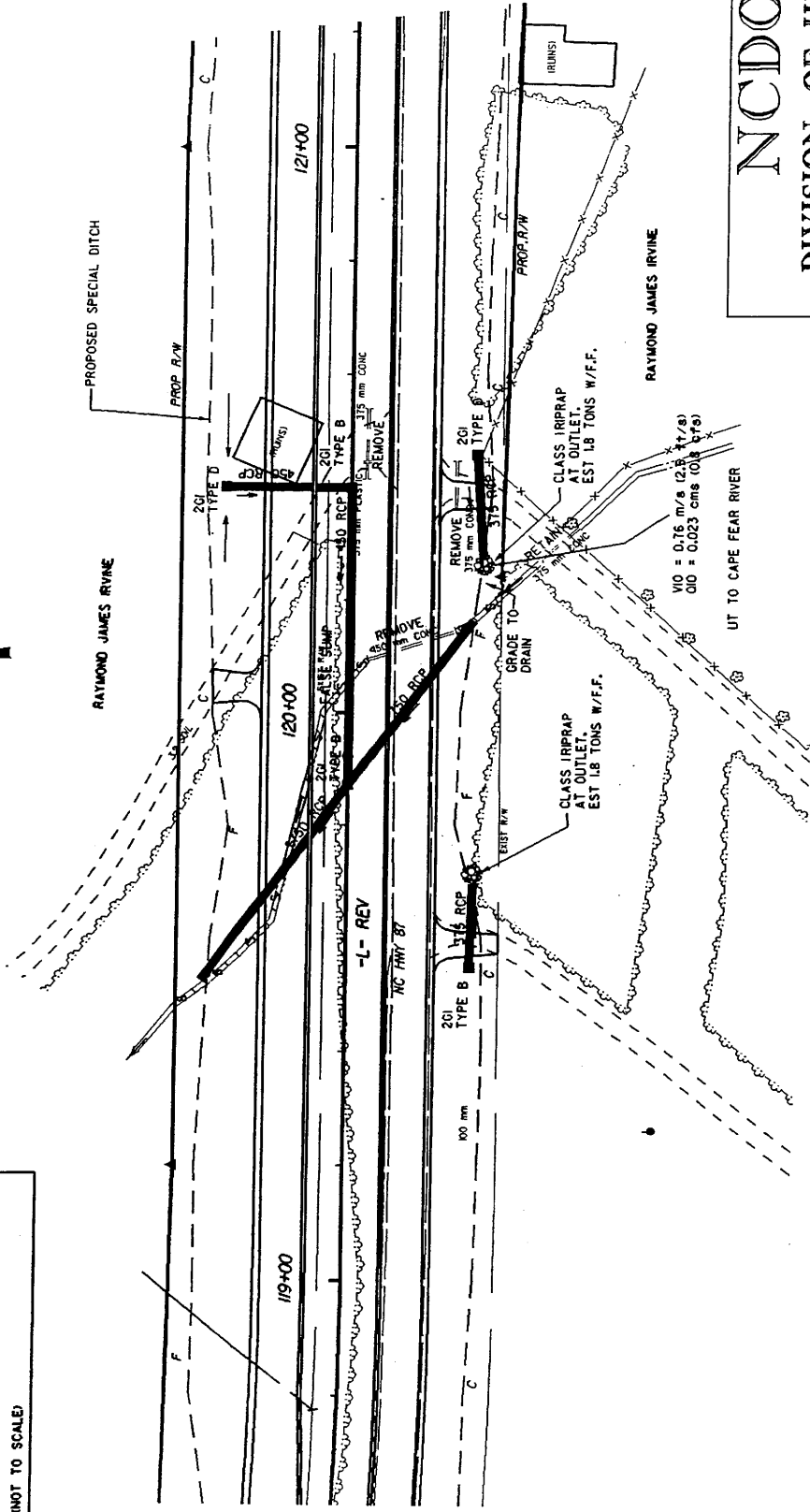
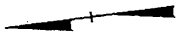
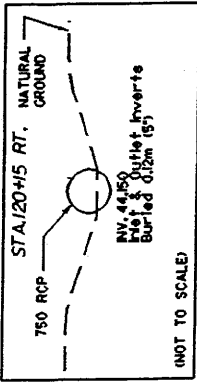
PLAN VIEW


SITE 3



-  DENOTES FILL IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING





 DENOTES FILL IN SURFACE WATER



PLAN VIEW SITE 4

NCDOT

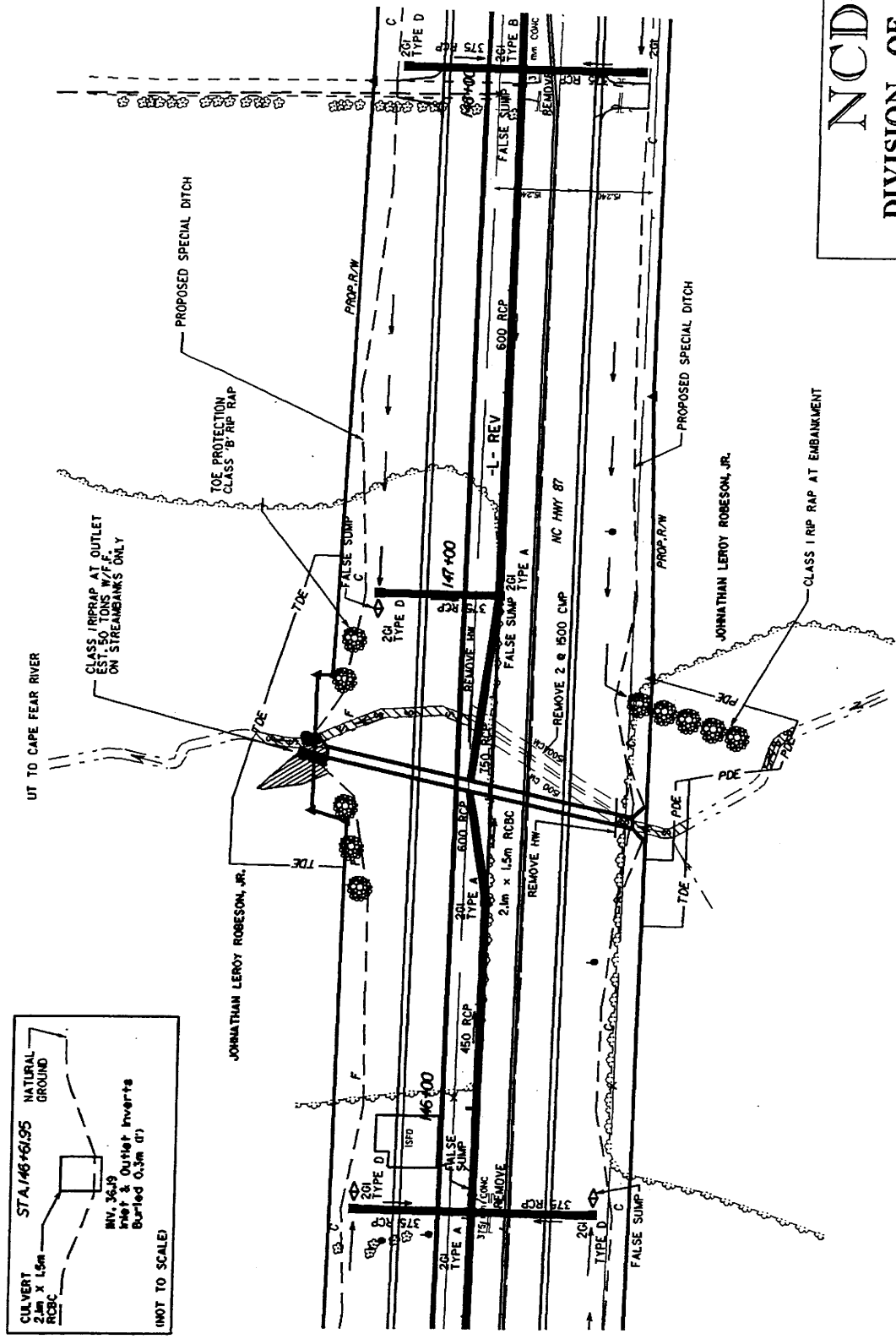
DIVISION OF HIGHWAYS
BLADEN COUNTY

PROJECT: 34467.1.1 (R-2562C)

NC 87 FROM NC 131 TO SR 1191

SHEET 1 OF 1

NC DOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
 PROJECT: 34467.1.1 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191
 SHEET 9 OF 20



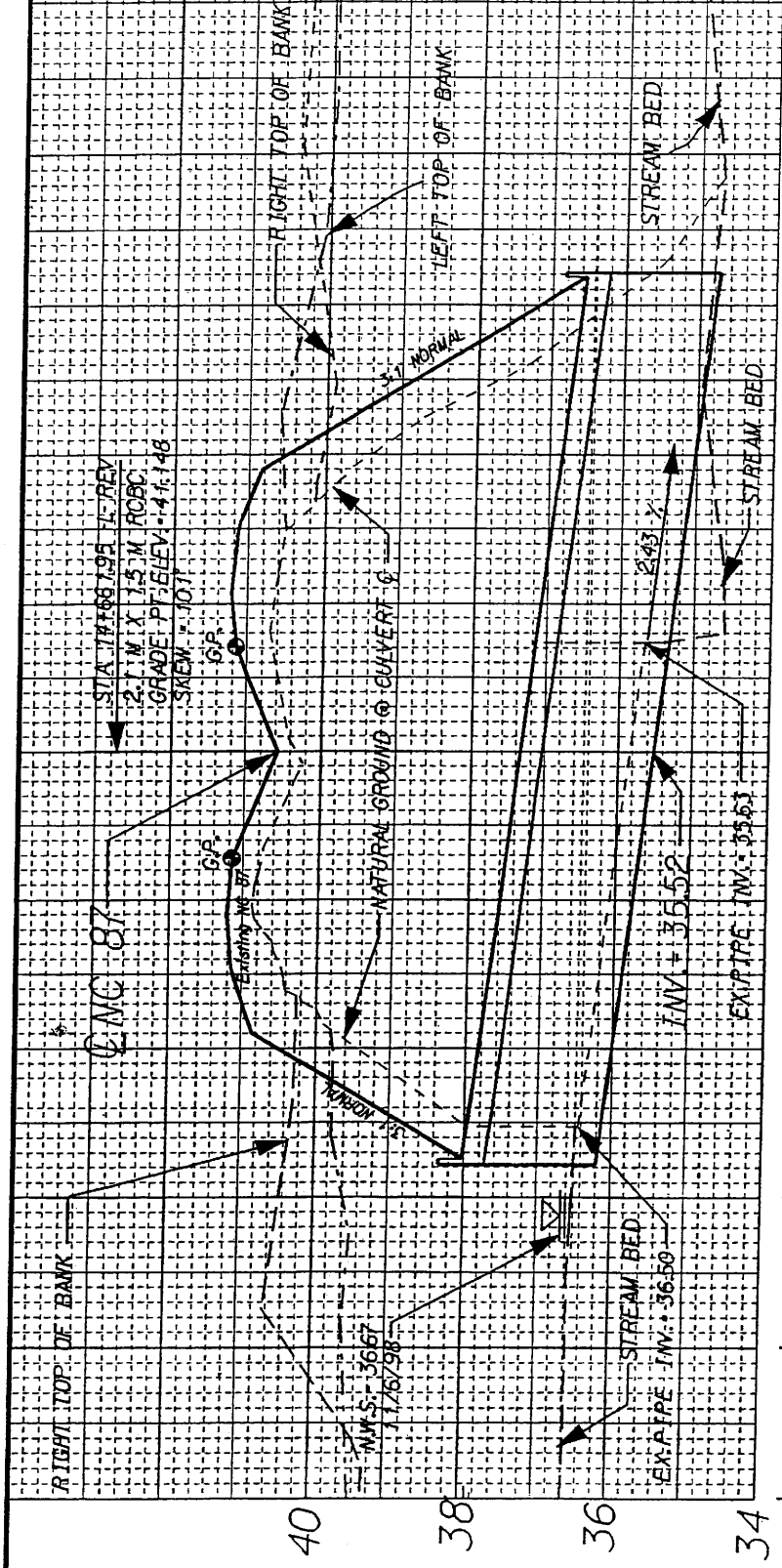
PLAN VIEW

SITE 5

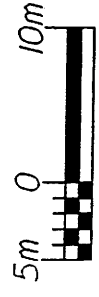
 DENOTES FILL IN SURFACE WATER



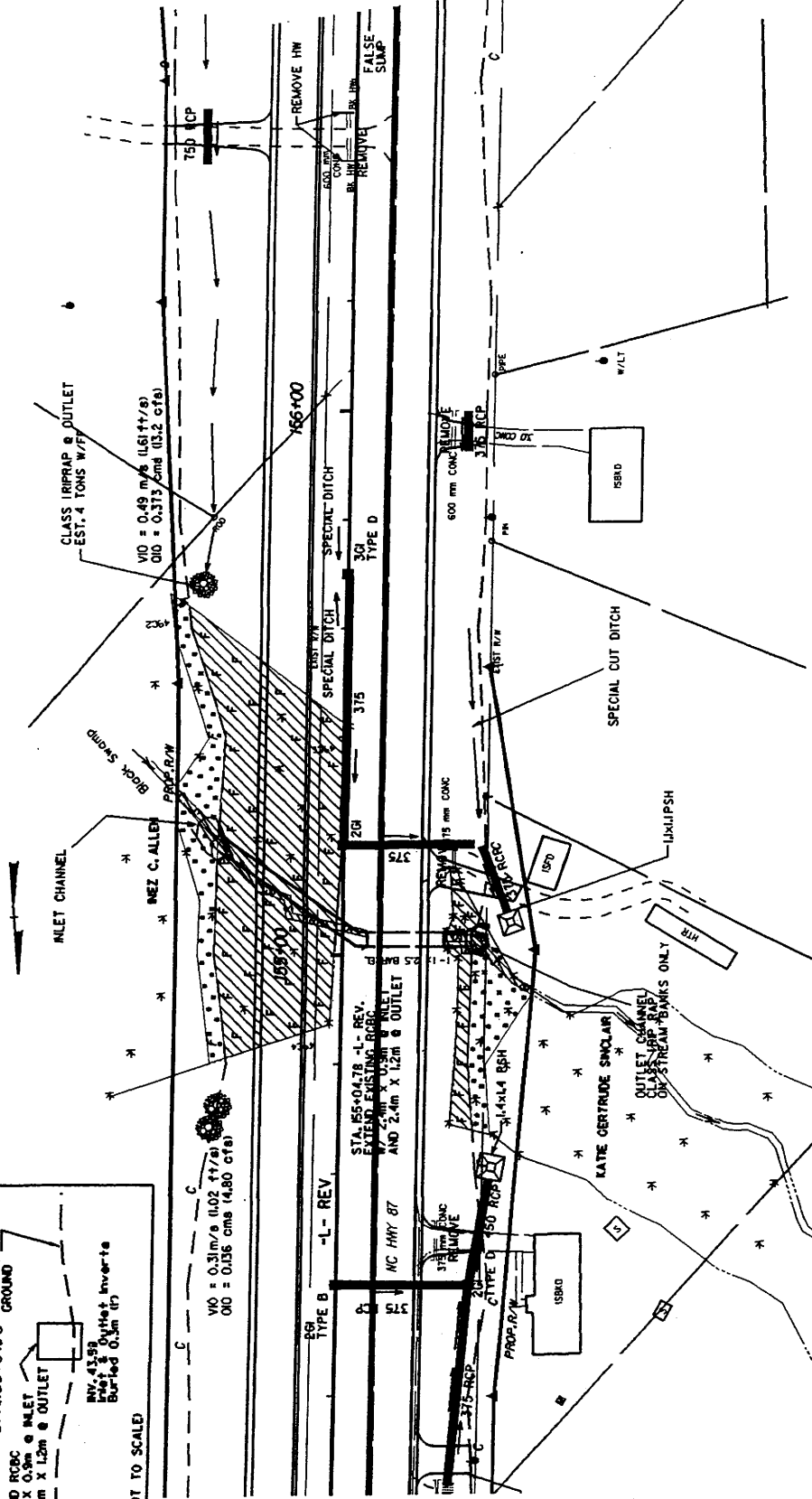
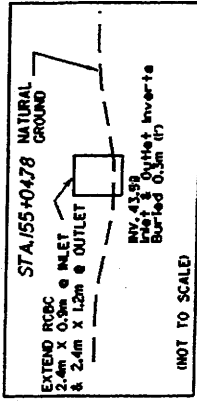
STA 148+61.95
 CULVERT 2.1m x 1.5m RCBC
 NATURAL GROUND
 INV. 36.39
 Inlet & Outlet Inverts Buried 0.3m (1)
 (NOT TO SCALE)



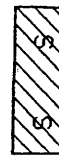


BOX CULVERT PROFILE SITE 5



N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 34467.1.1 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191
 SHEET 10 OF 20



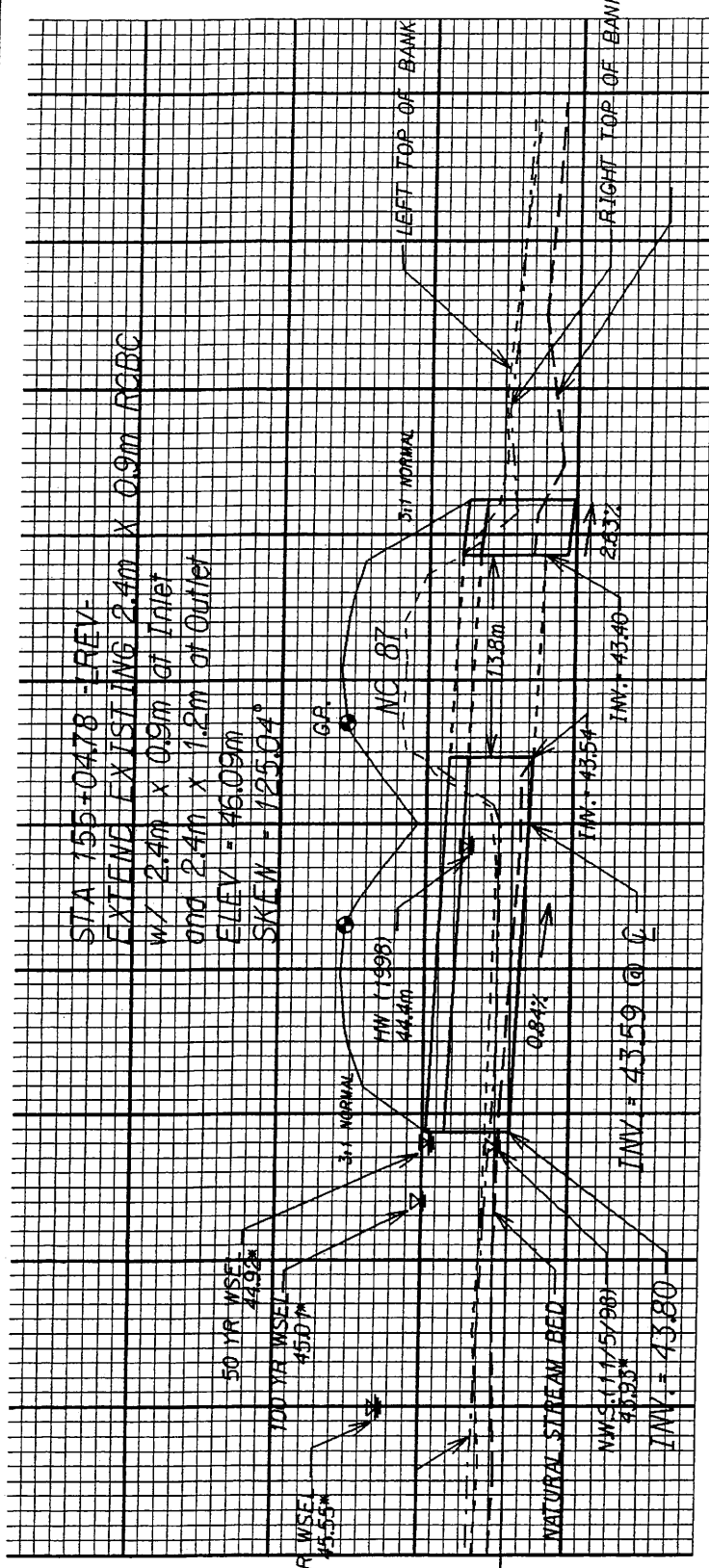
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN SURFACE WATER



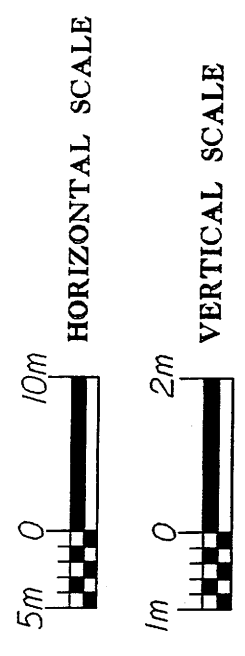
PLAN VIEW

SITE 6

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 34467.1.1 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191
 SHEET 11 OF 21

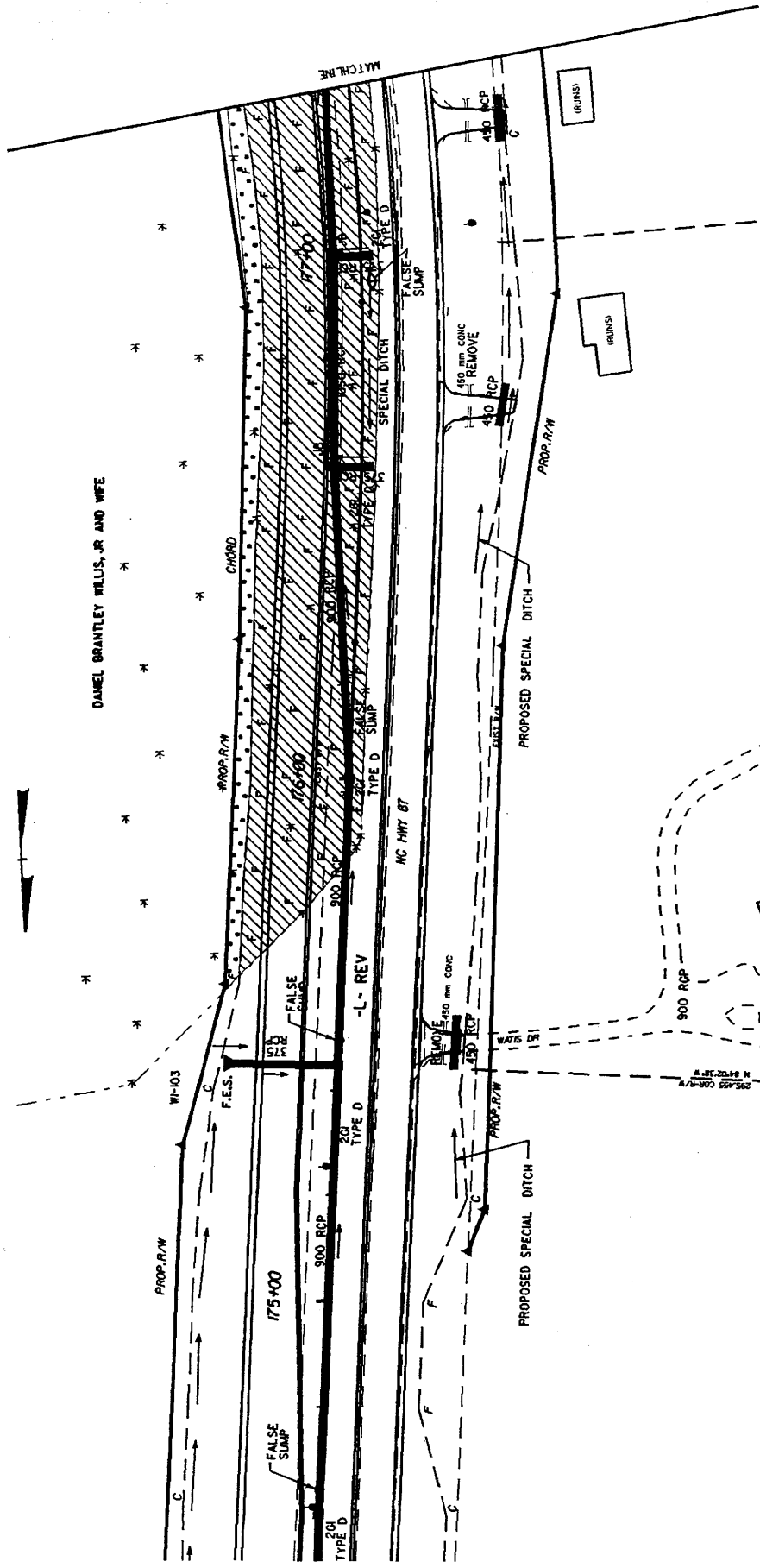


BOX CULVERT PROFILE SITE 6

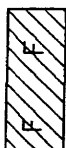



N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 34467.11 (R-2562C)
 NC 87 FROM NC 131 TO SR 1191

SHEET 12 OF 21

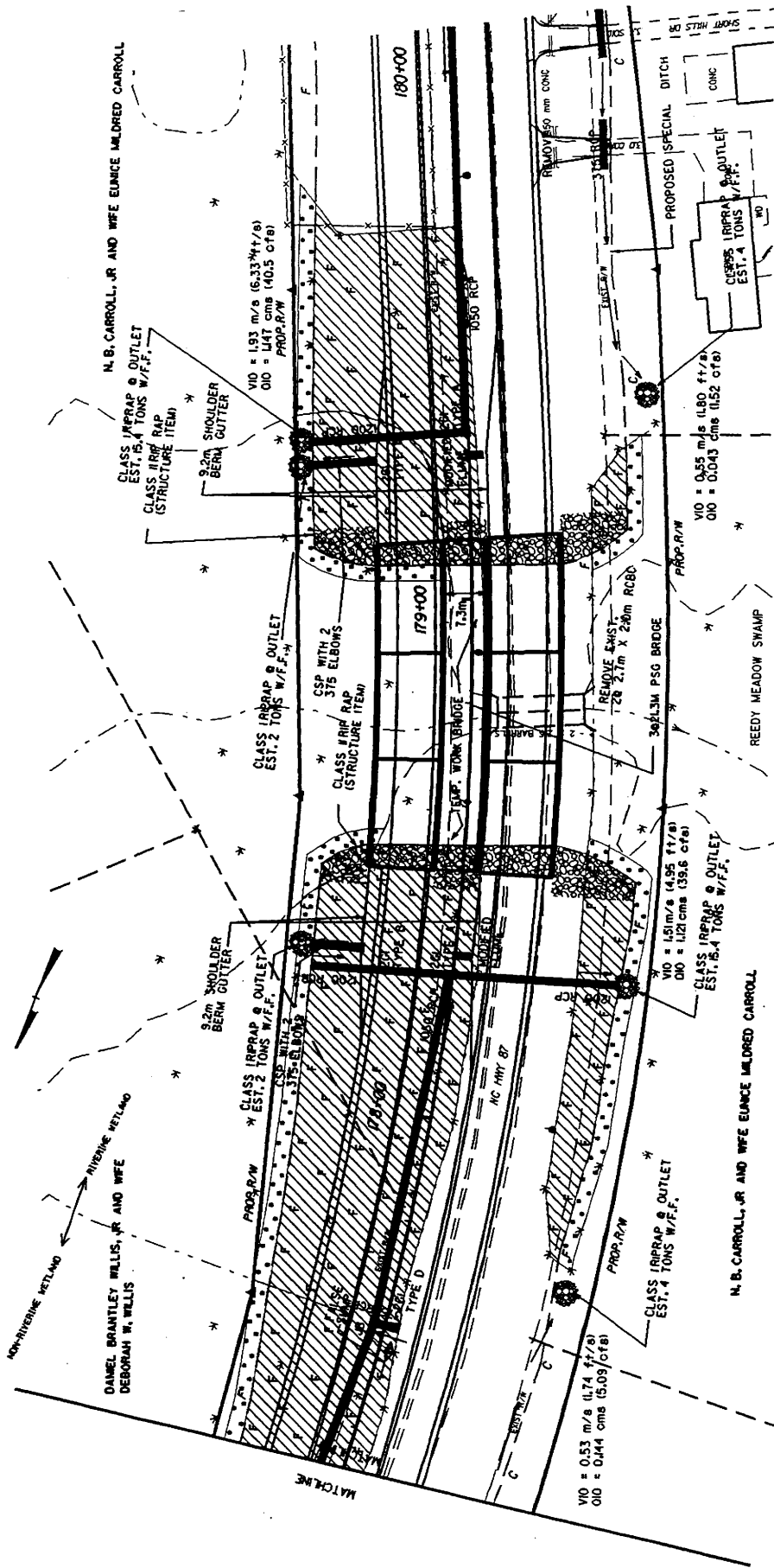


NCDOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)
NC 87 FROM NC 131 TO SR 1191
SHEET 13 OF 21

 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

PLAN VIEW
SITE 7





DENOTES MECHANIZED
CLEARING

F
DENOTES FILL IN
WETLAND

S
DENOTES FILL IN
SURFACE WATER



PLAN VIEW

SITE 7

NCDOT

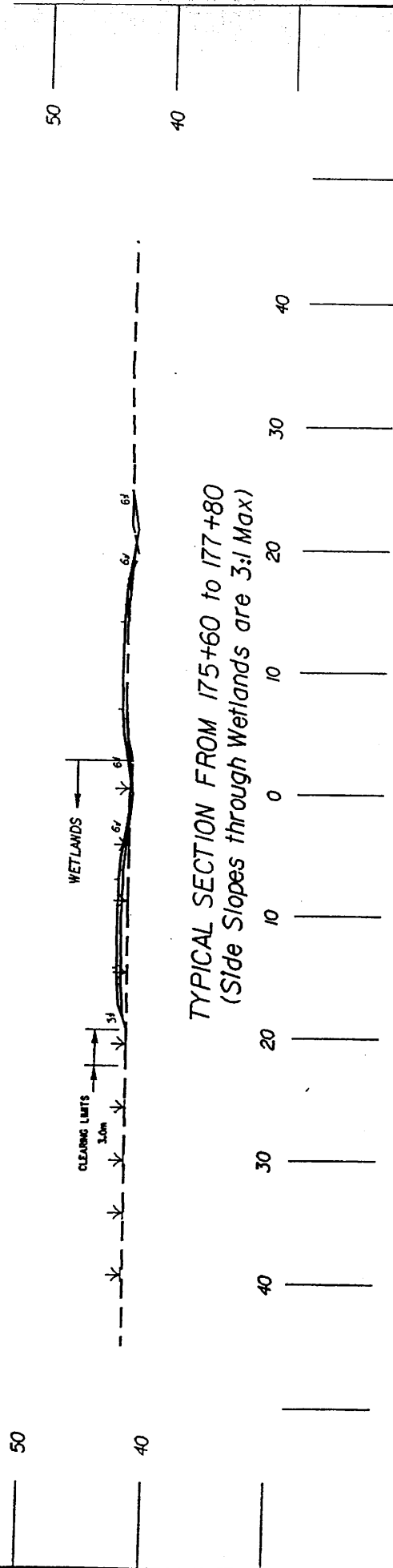
DIVISION OF HIGHWAYS
BLADEN COUNTY

PROJECT: 34467.1.1 (R-2562C)

NC 87 FROM NC 131 TO SR 1191

SHEET 14 OF 20

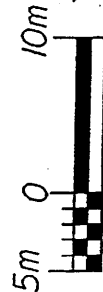
-L- REV.



TYPICAL SECTION FROM 175+60 to 177+80
(Side Slopes through Wetlands are 3:1 Max)

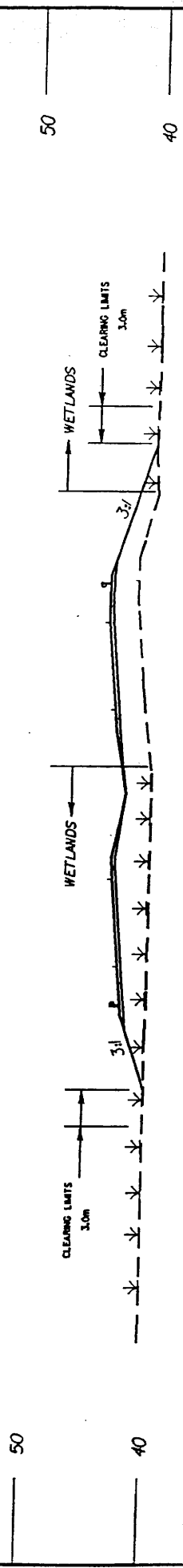
X-SECTION

SITE 7



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)
NC 87 FROM NC 131 TO SR 1191

-L- REV.



TYPICAL SECTION FROM 177+80 to 179+20
(Side Slopes through Wetlands are 3:1 Max)

X-SECTION



HORIZONTAL SCALE



VERTICAL SCALE

SITE 7

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)
NC 87 FROM NC 131 TO SR 1191

-L- REV

PI = 178+65.000
EL = 45.314 m
VC = 150 m
g1% = +1.7093%
g2% = -1.0438%

PROPOSED GRADE

3 @ 21.3m PSG BRIDGE

NATURAL GROUND

EXISTING 2 @ 2.4m x 1.8m RCBC
TO BE REMOVED

EXISTING NC 87

50

45

40

35

50

45

40

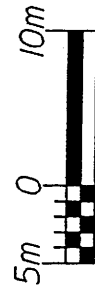
35

178+40

178+80

179+20

PROFILE



SITE 7

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 34467.1.1 (R-2562C)

NC 87 FROM NC 131 TO SR 1191

SHEET 17 OF 21

TEMP. WORK BRIDGE

(APPROXIMATE WIDTH = 7.3m)

50

50

PROPOSED GRADE

45

45

TEMP. WORK BRIDGE

40

40

1.2m MIN

NATURAL GROUND

35

NWS=40.6m

EXISTING NC 87

35

178+40

178+80

179+20

PROFILE



HORIZONTAL SCALE



VERTICAL SCALE

SITE 7

N. C. DEPT. OF TRANSPORTATION

DIVISION OF HIGHWAYS

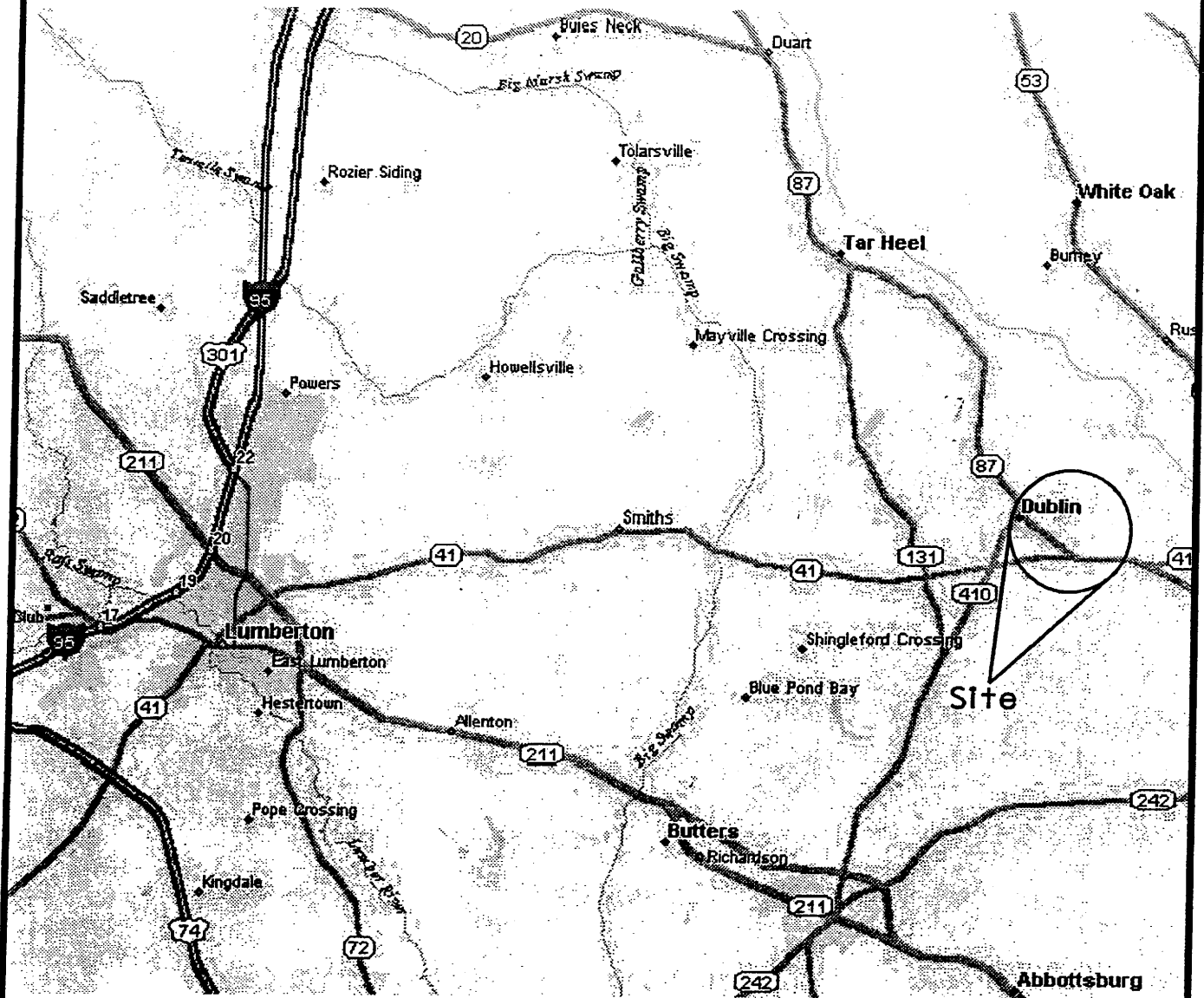
BLADEN COUNTY

PROJECT: 34467.1.1 (R-2562C)

NC 87 FROM NC 131 TO SR 1191

SHEET 18 OF 21

VICINITY MAP



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

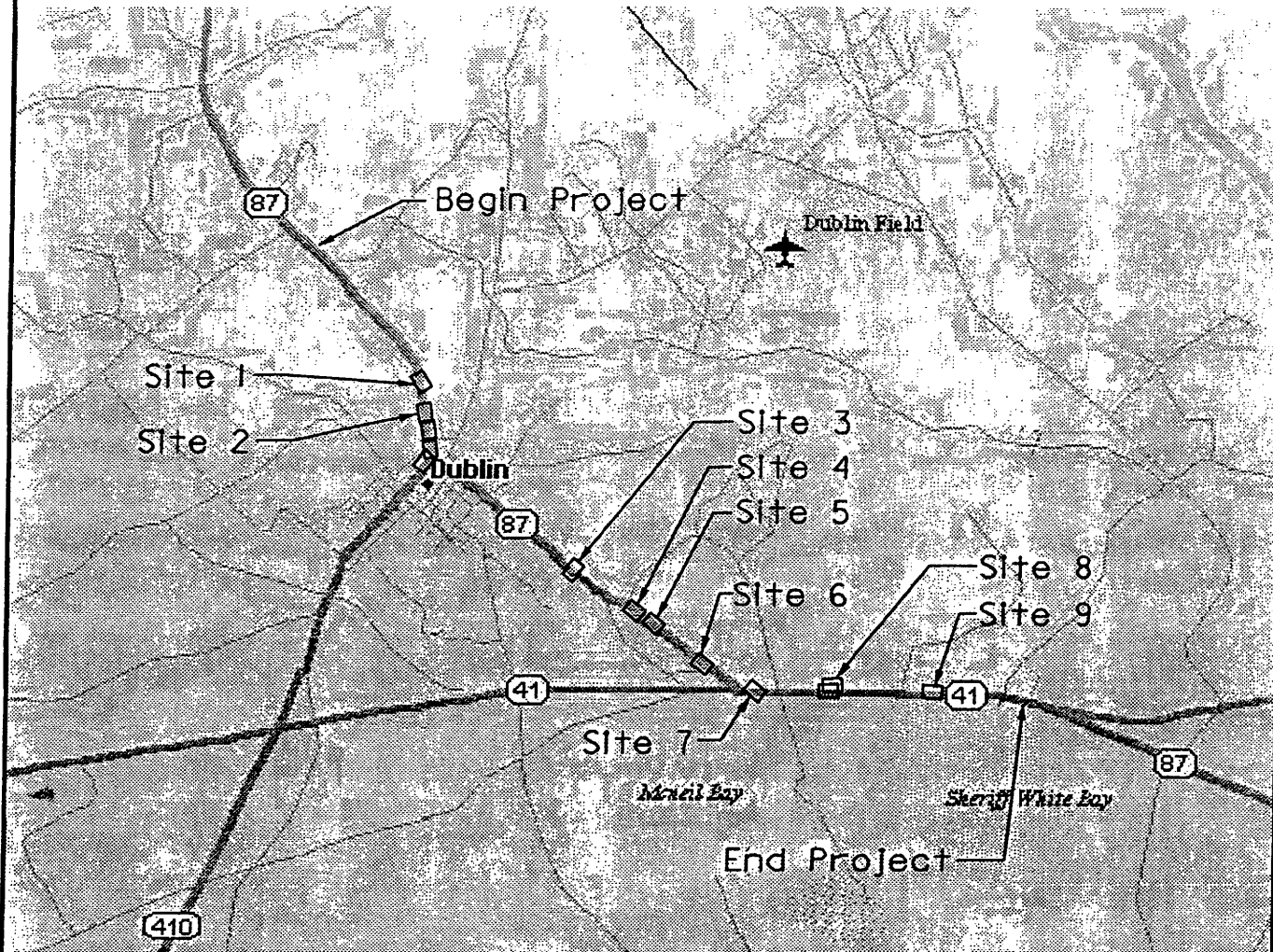
BLADEN COUNTY

PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO
NC41/NC 87 BUS

SHEET 1 OF 26

SITE MAP



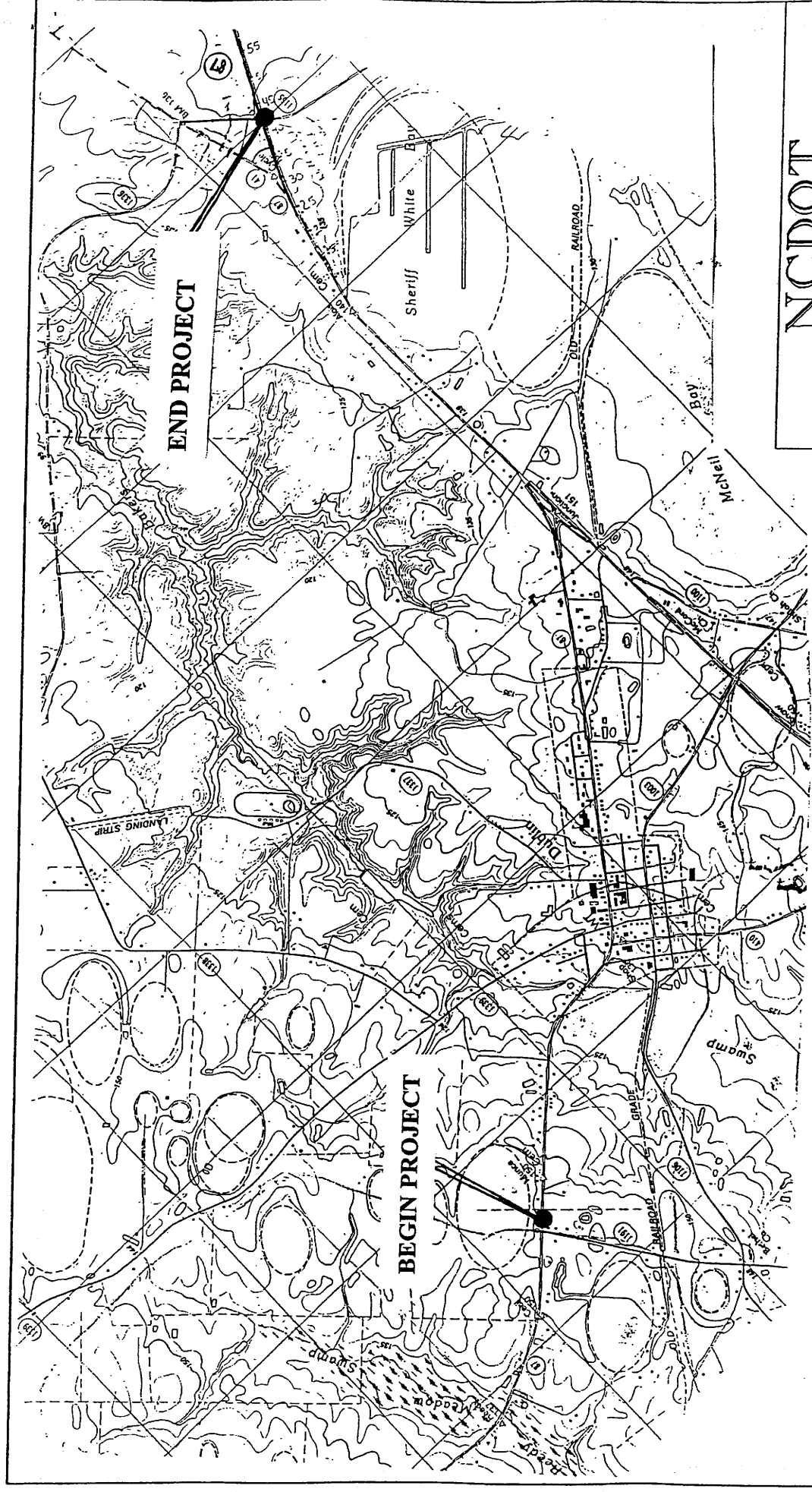
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY

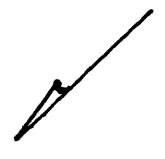
PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO
NC41/NC 87 BUS

SHEET 2 OF 26




VICINITY MAP



NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS
 SHEET 3 OF 26

LEGEND

—WLB— WETLAND BOUNDARY

 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

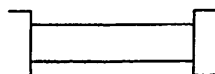
—E—E— CONSTRUCTION EASEMENT

× × × LIVE STAKES

 BOULDER

— — — COIR FIBER ROLLS

 ADJACENT PROPERTY OWNER OR PARCEL NUMBER

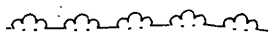
 PROPOSED BRIDGE

 PROPOSED BOX CULVERT

 PROPOSED PIPE CULVERT


(DASHED LINES DENOTE EXISTING STRUCTURES)

○ SINGLE TREE

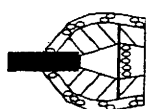
 WOODS LINE

■ DRAINAGE INLET

 ROOTWAD

 VANE

 RIP RAP

 RIP RAP ENERGY DISSIPATOR BASIN

— — — BUFFER ZONE BUFFER ZONE

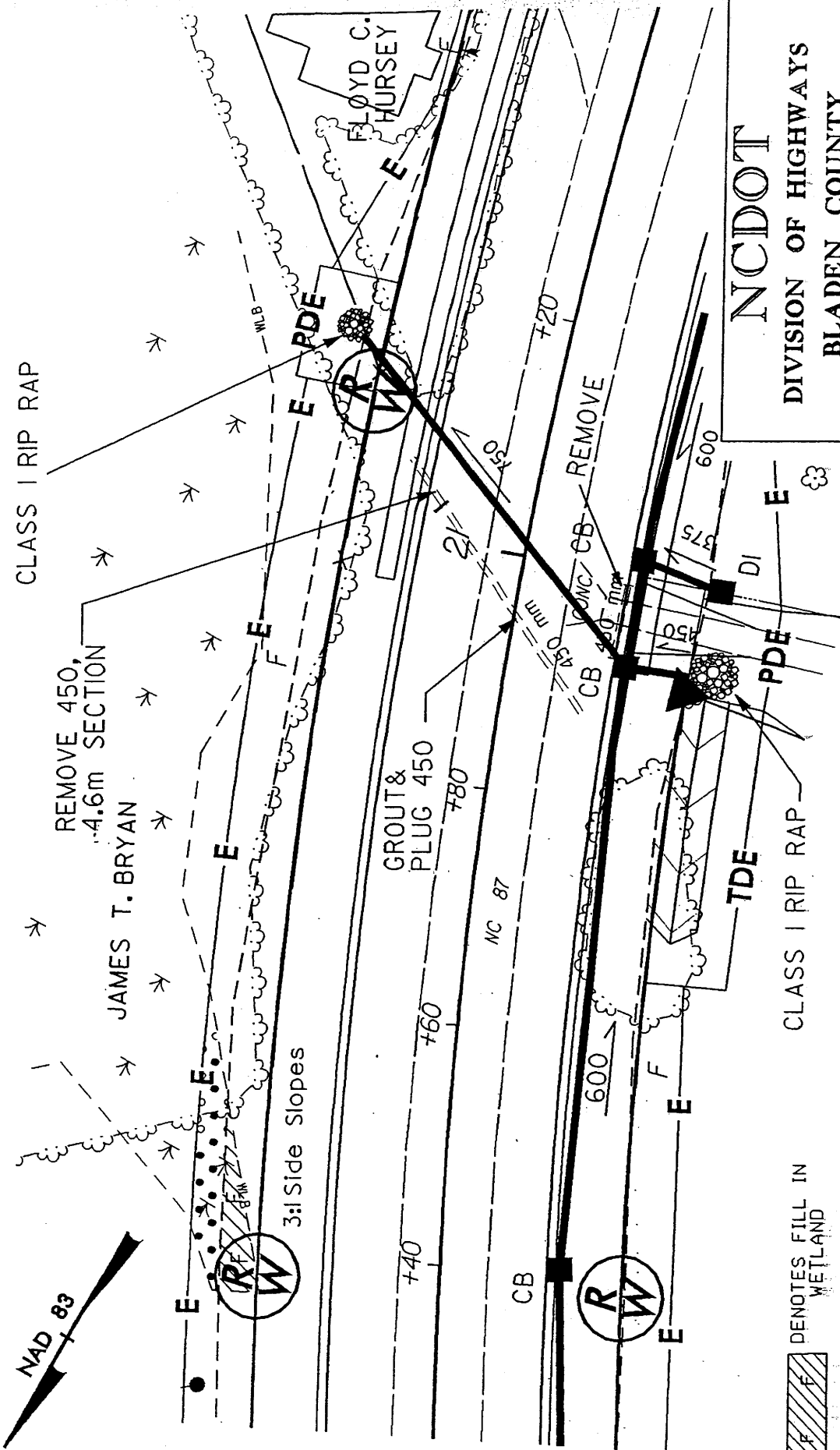
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY

PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO
NC41/NC 87 BUS

SHEET 4 OF 26




NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/ NC 87 BUSINESS

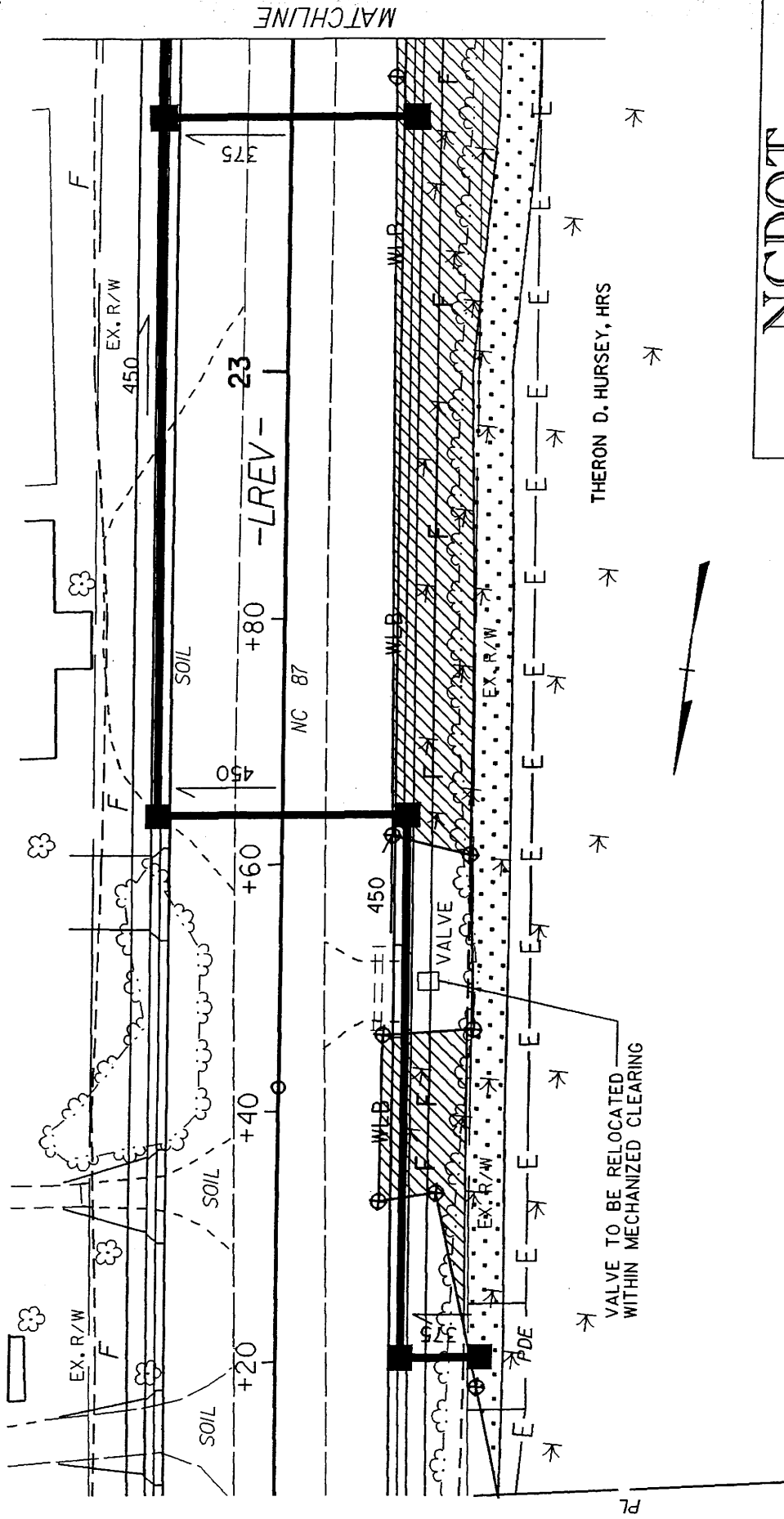
SHEET 5 OF 24


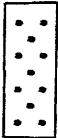
**PLAN VIEW
 SITE 1**

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING





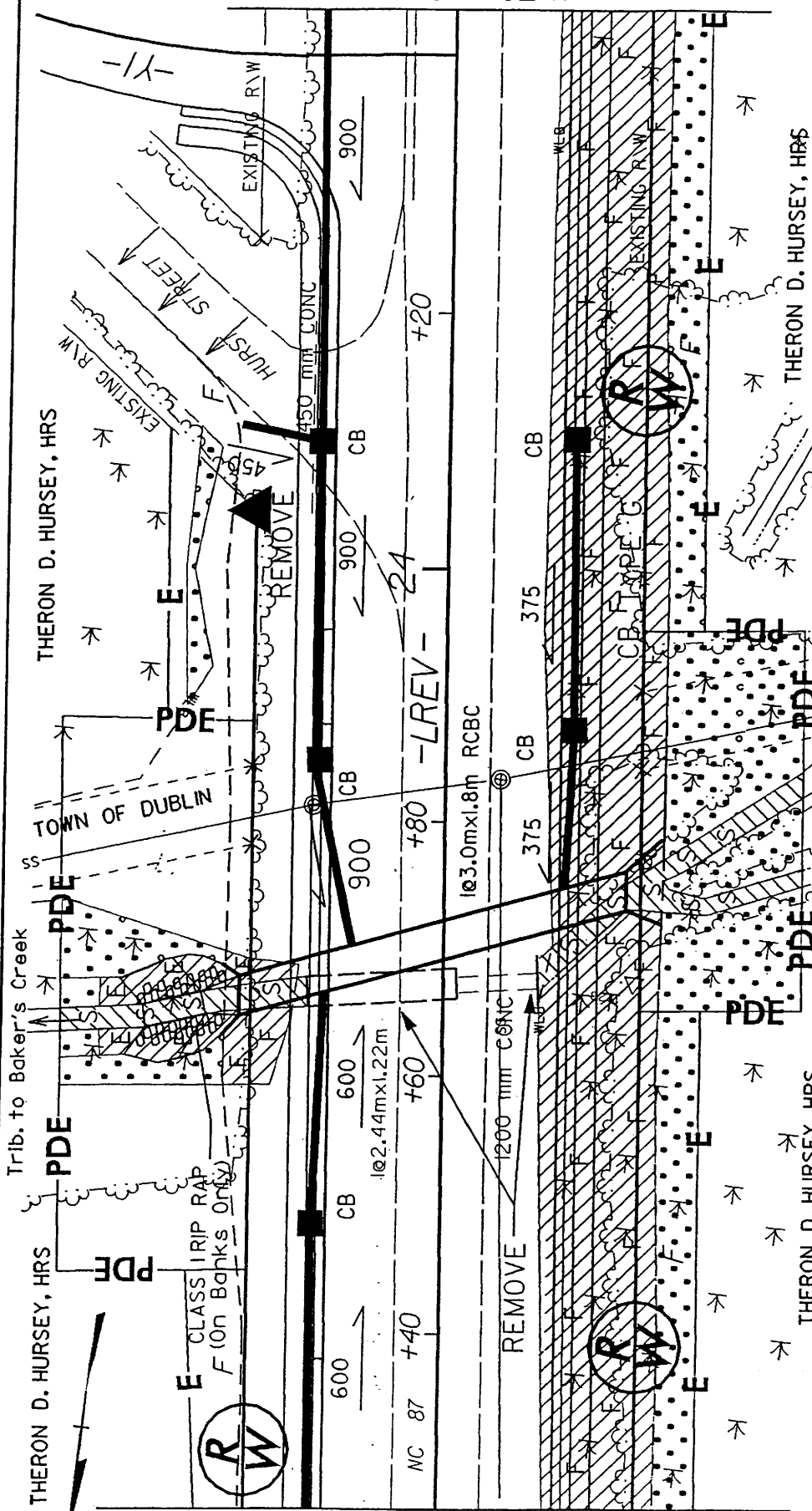
 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING
 5M 0 10M SCALE

PLAN VIEW
SITE 2

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/ NC 87 BUSINESS
 SHEET 6 OF 26

THERON D. HURSEY, HRS
 6/2/21

MATCHLINE



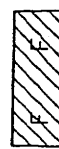



MATCHLINE

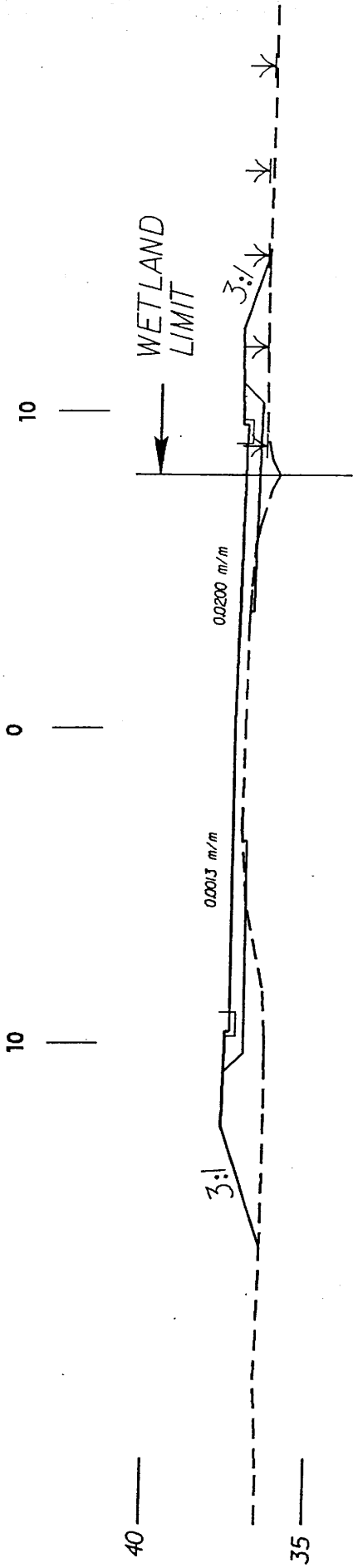
NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/ NC 87 BUSINESS

SHEET 7 OF 76

PLAN VIEW
SITE 2

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING





TYPICAL FROM 22+20 TO 25+40 -LREV- (RT)

X-SECTION

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-562D)
 NC 87 FROM SR 1191 TO
 NC 41// NC 87 BUSINESS

23+00

24+00

-LREV-

40—

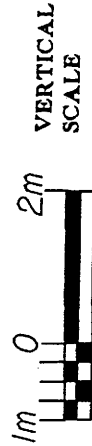
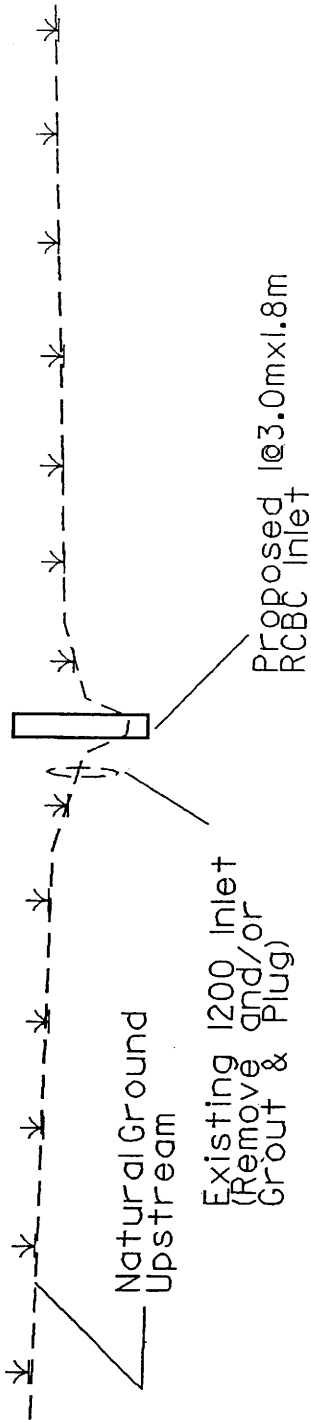
38—

36—

34—

Proposed Grade

Existing Grade

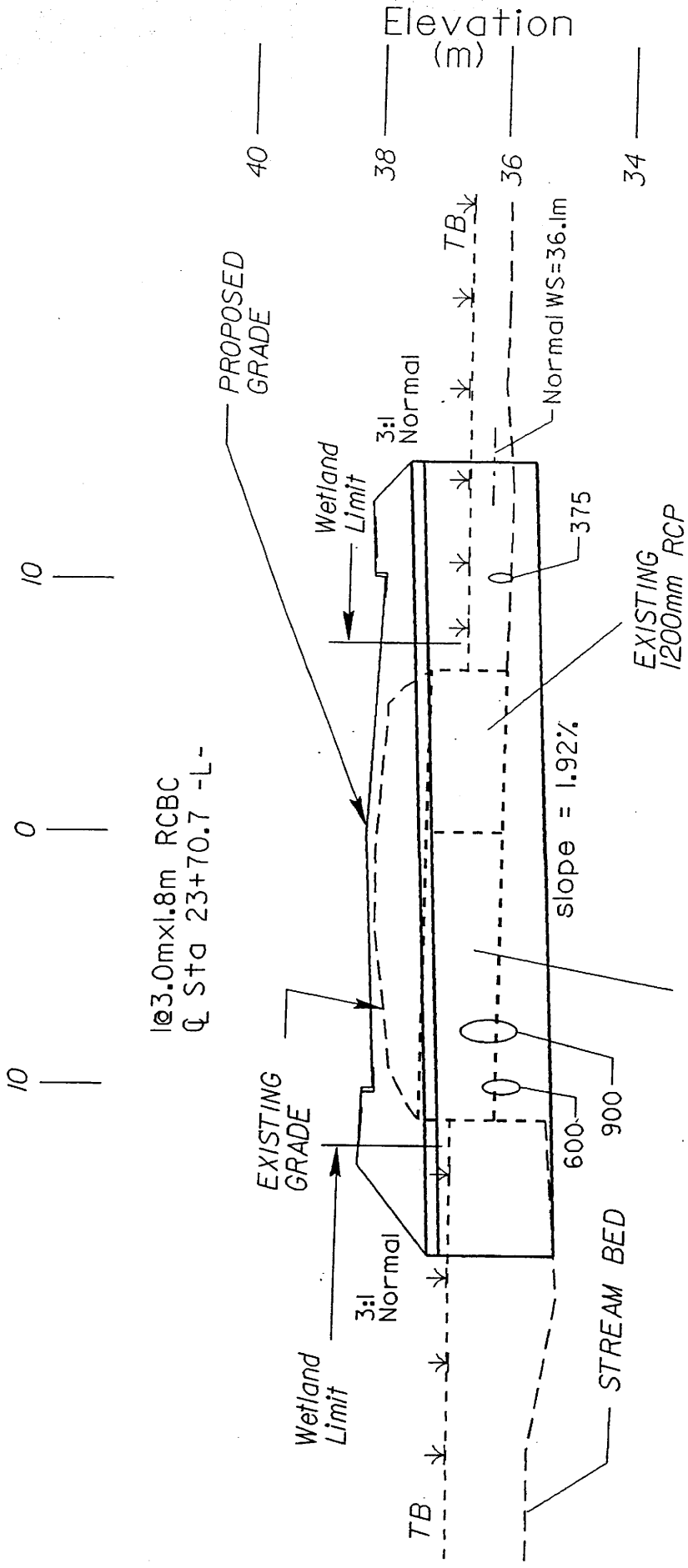


PROFILE VIEW

SITE 2

NCDOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS

SHEET 9 OF 26



10 0 10

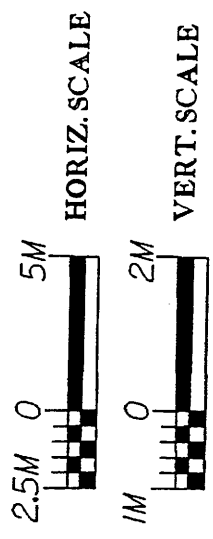
10 3.0m x 1.8m RCBC
 @ Sta 23+70.7 -L-

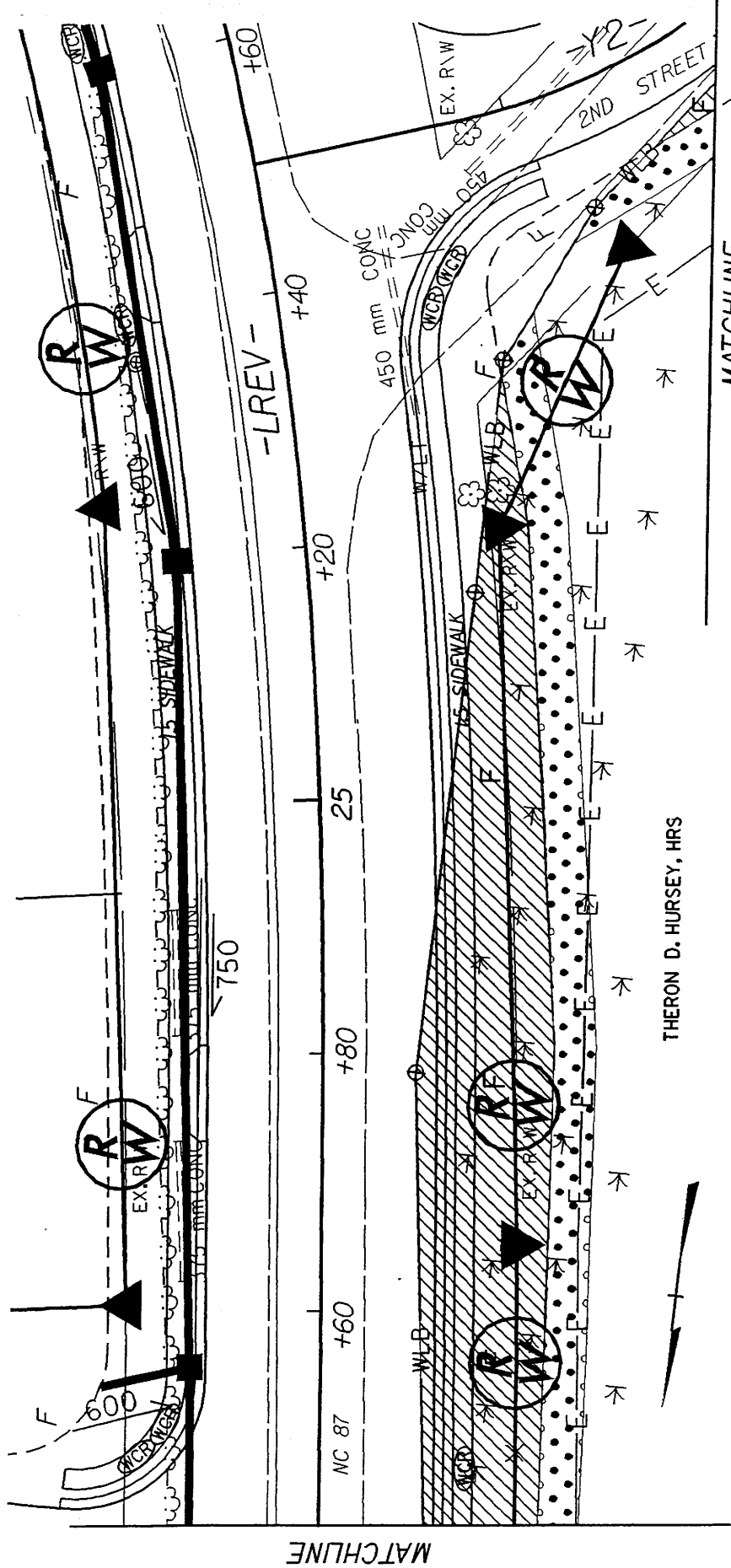
Elevation (M)

40 38 36 34

N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/ NC 87 BUSINESS
 SHEET 16 OF 26

SECTION VIEW
 SITE 2





MATCHLINE

MATCHLINE

THON D. HURSEY, HRS

 DENOTES FILL IN WETLAND

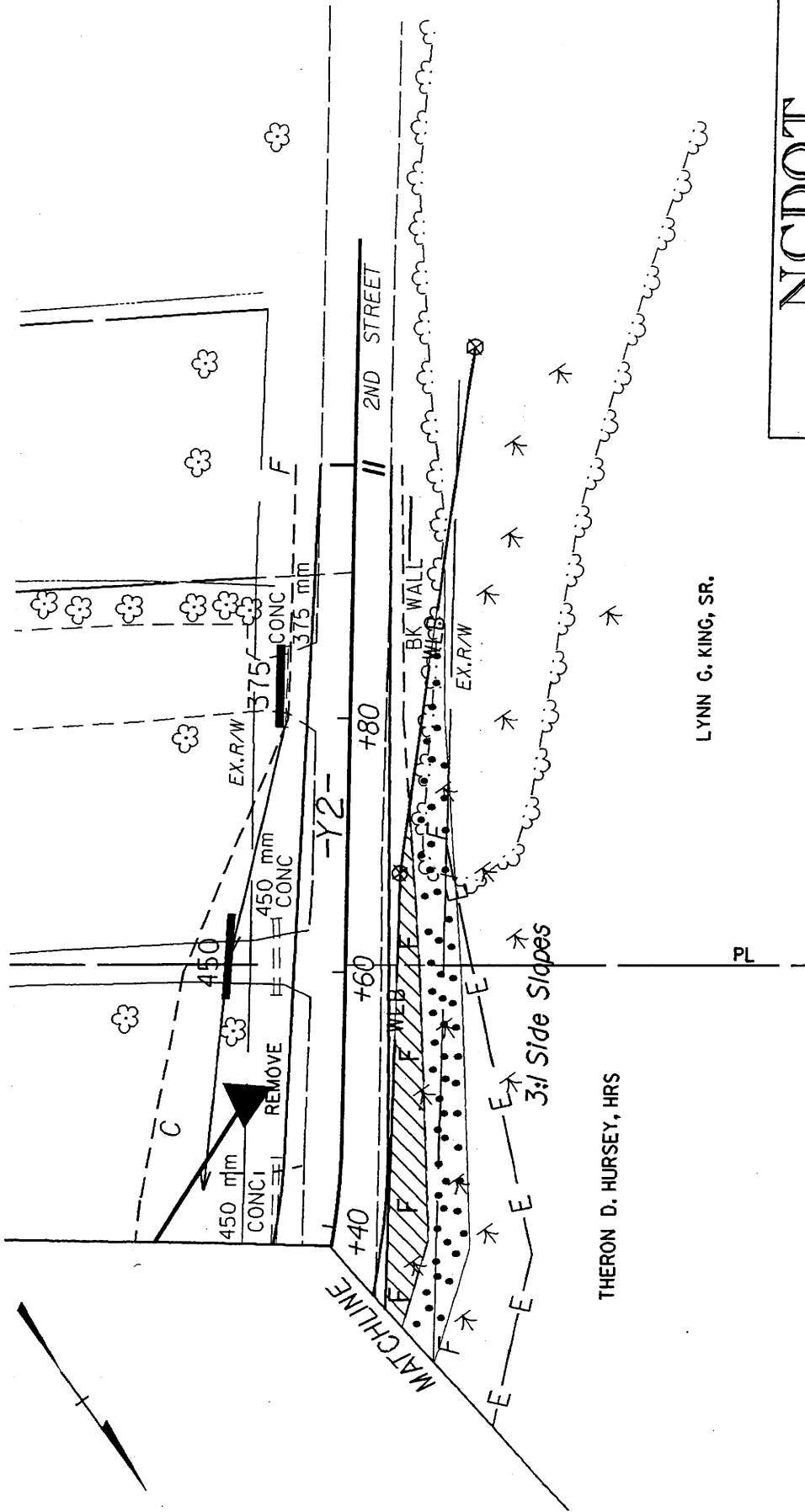
 DENOTES MECHANIZED CLEARING

5M 0 10M SCALE




PLAN VIEW SITE 2

NC DOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41// NC 87 BUSINESS
 SHEET 11 OF 26



Theron D. Hursey, HRS

Lynn G. King, SR.

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING

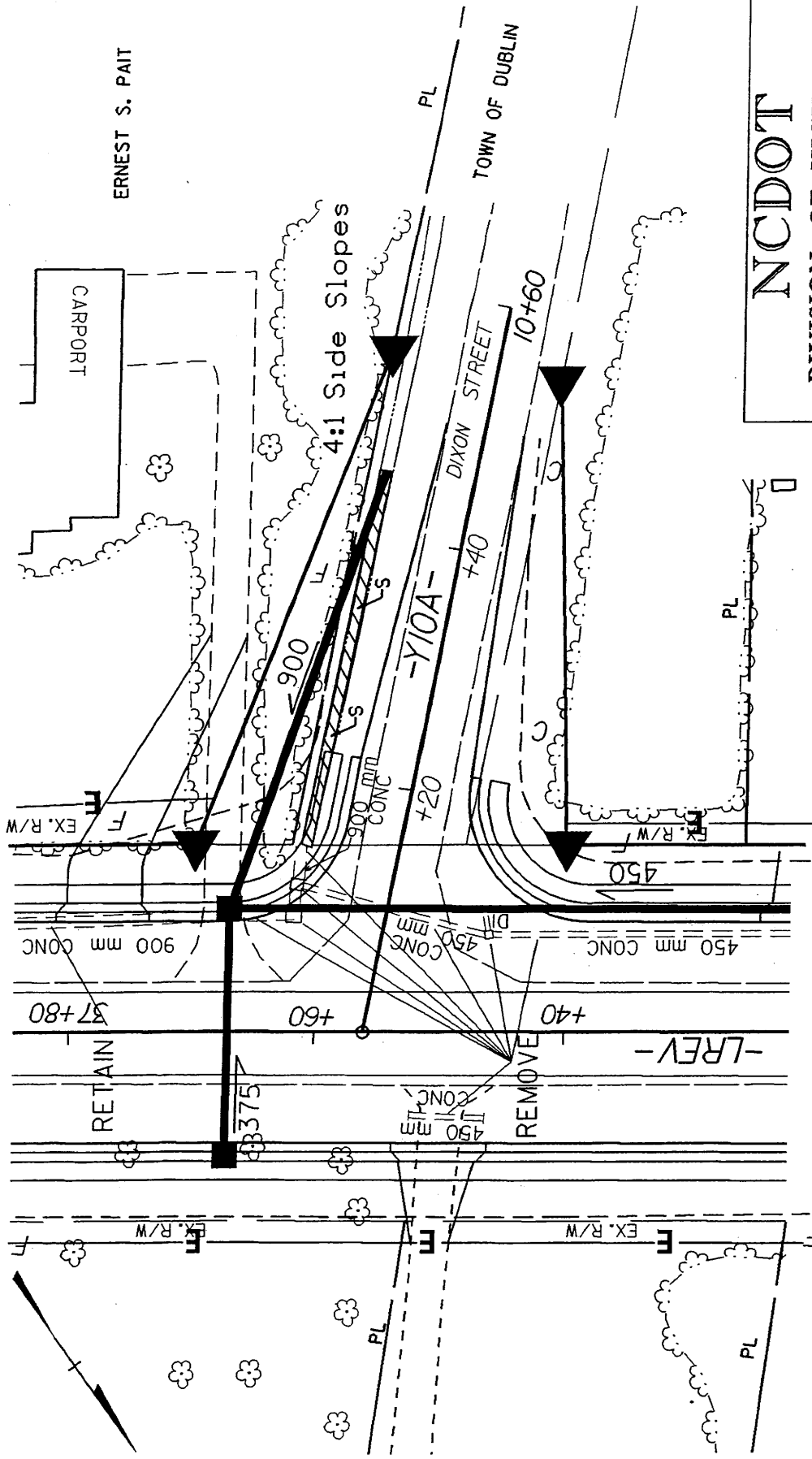
5M 0 10M  SCALE

PLAN VIEW SITE 2

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS

SHEET / 2 OF 26



NCDOT

DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS

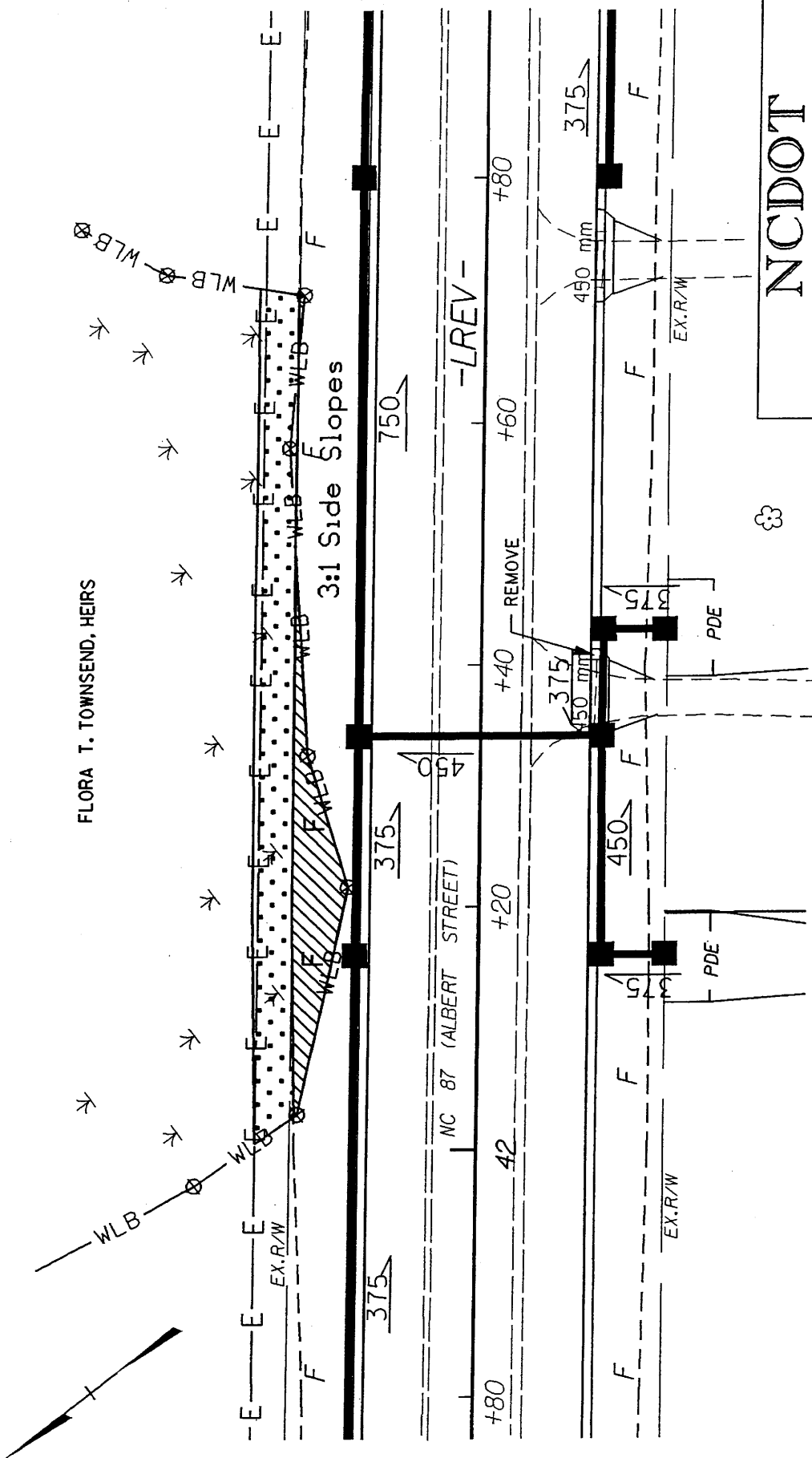
SHEET 13 OF 26

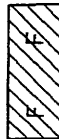
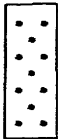
PLAN VIEW
 SITE 3

 DENOTES FILL IN SURFACE WATER



FLORA T. TOWNSEND, HEIRS

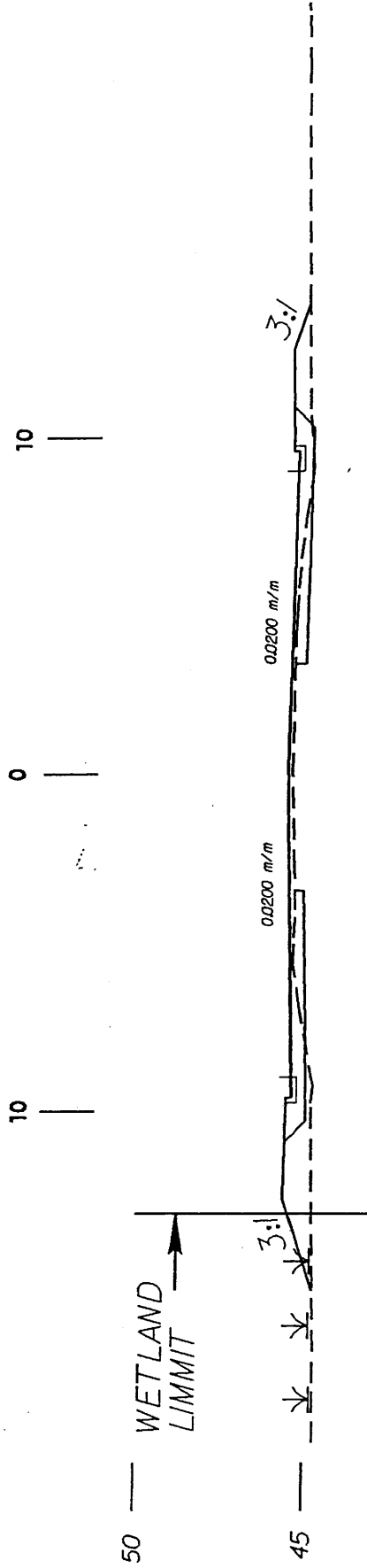


 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING



PLAN VIEW
SITE 4

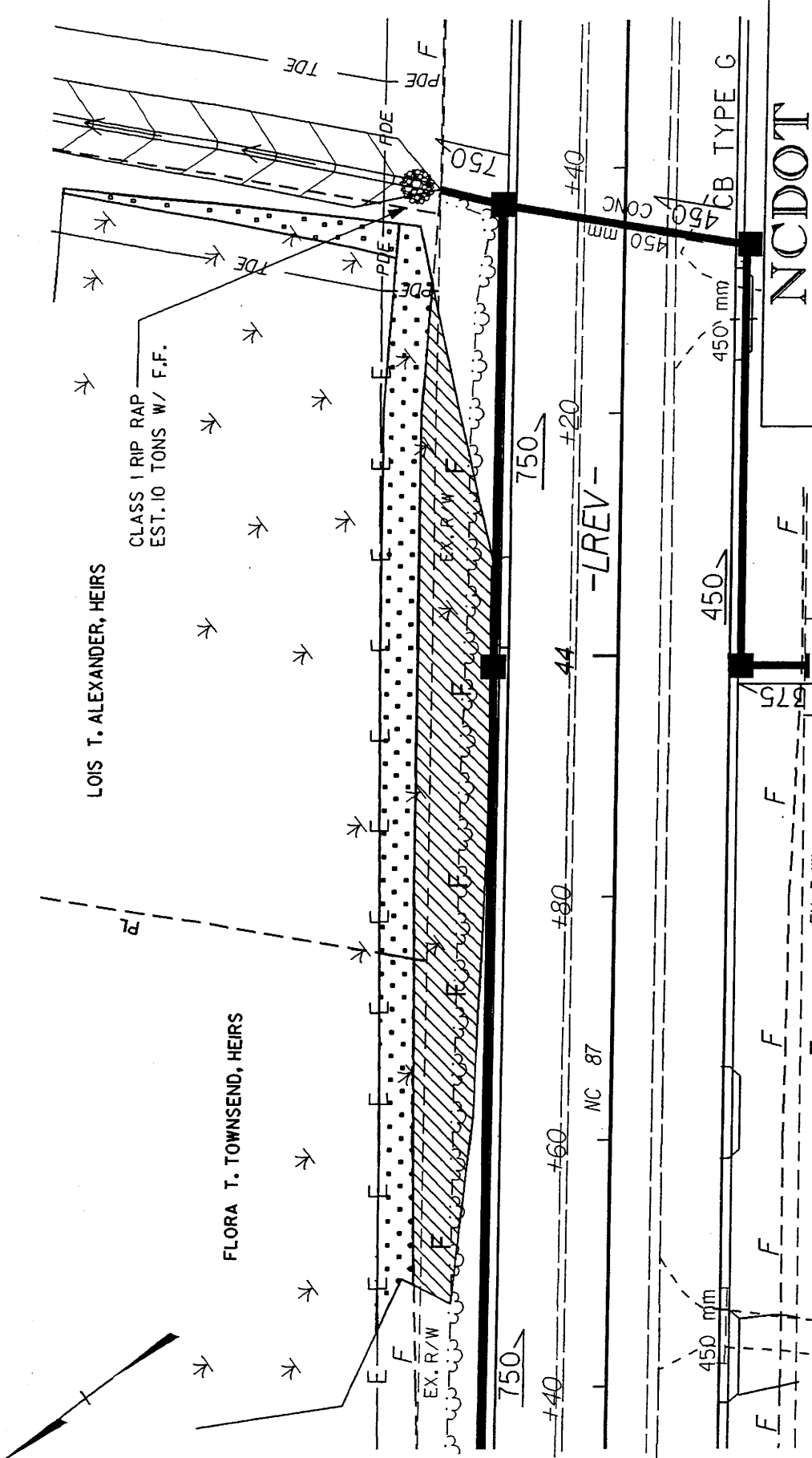
NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS
 SHEET 14 OF 26



TYPICAL FROM 42+00 TO 42+70 -LREV- (LT)

X-SECTION

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-562D)
 NC 87 FROM SR 1191 TO
 NC 41/ NC 87 BUSINESS



LOIS T. ALEXANDER, HEIRS

CLASS 1 RIP RAP
EST. 10 TONS W/ F.F.

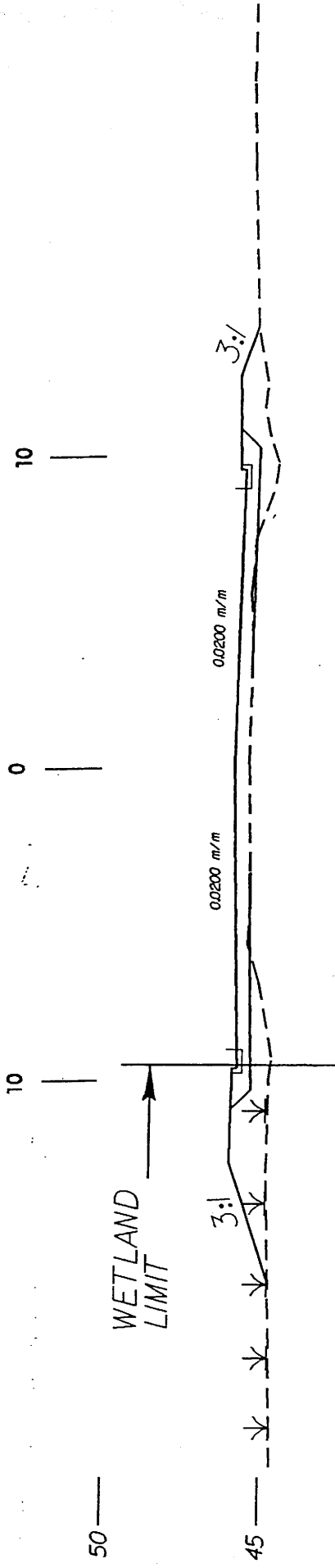
FLORA T. TOWNSEND, HEIRS

NC DOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6,439001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS
 SHEET 16 OF 26

 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

**PLAN VIEW
 SITE 5**

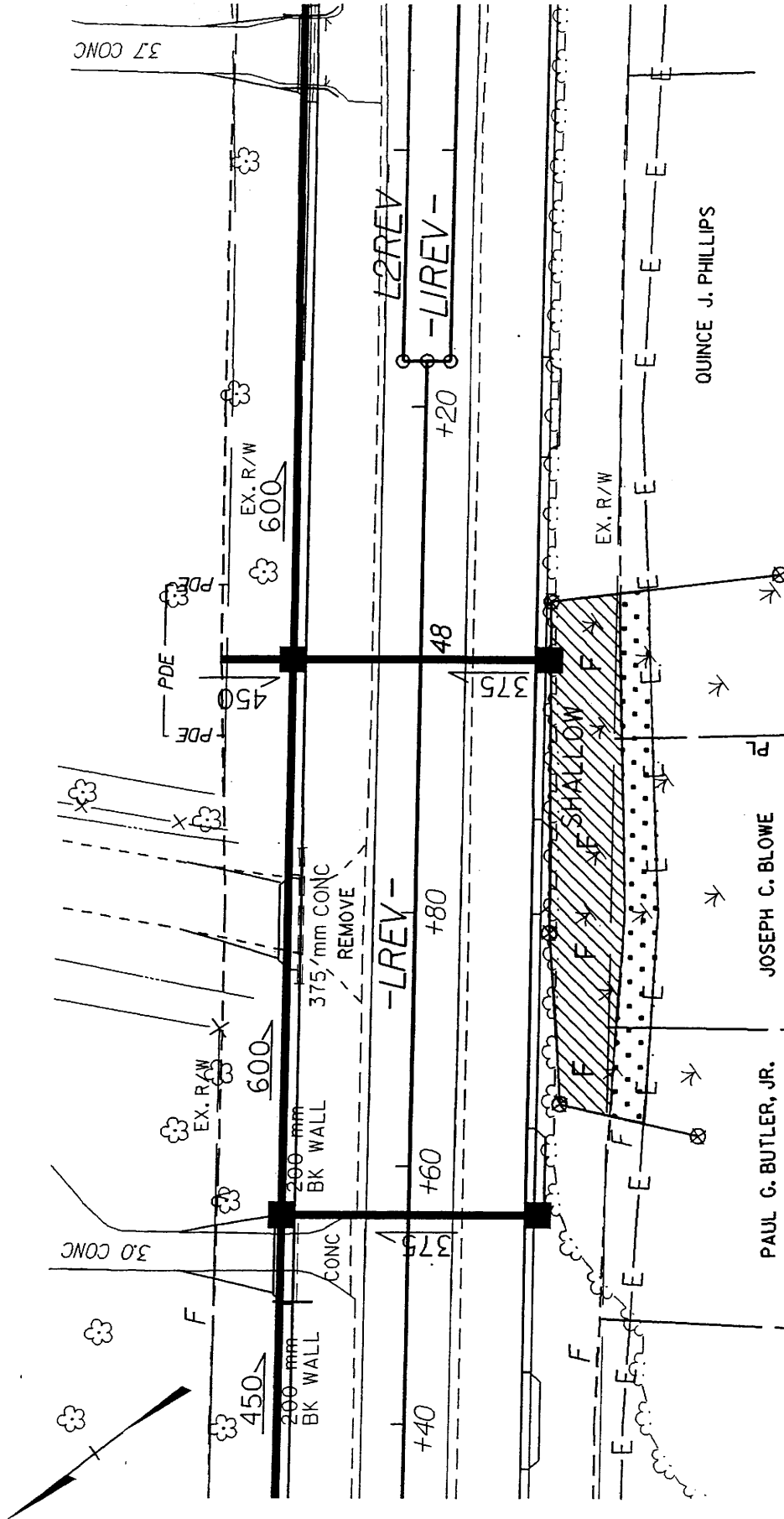




TYPICAL FROM 43+50 TO 44+20 -LREV- (LT)


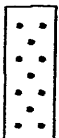
NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS

X-SECTION



NC DOT
DIVISION OF HIGHWAYS
BLADEN COUNTY
PROJECT: 6-459001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS
SHEET 18 OF 26

PLAN VIEW
SITE 6

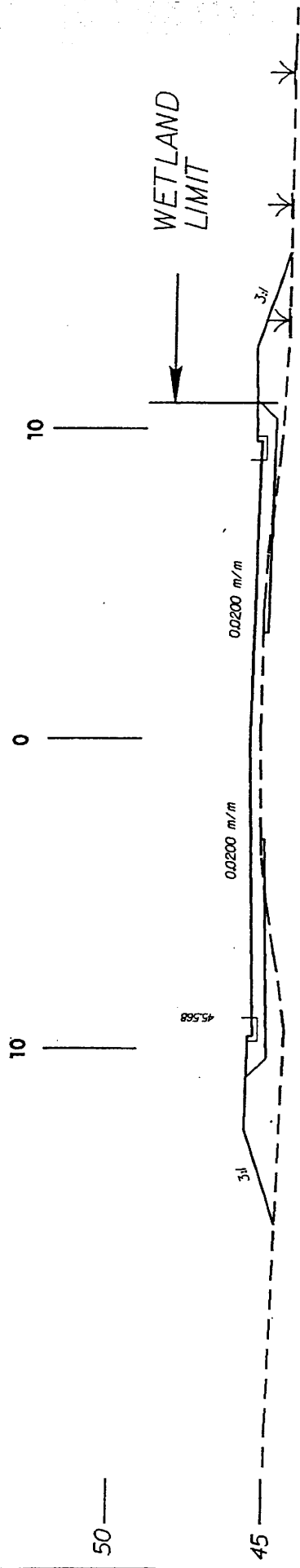
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING



PAUL G. BUTLER, JR.

JOSEPH C. BLOWE

QUINCE J. PHILLIPS

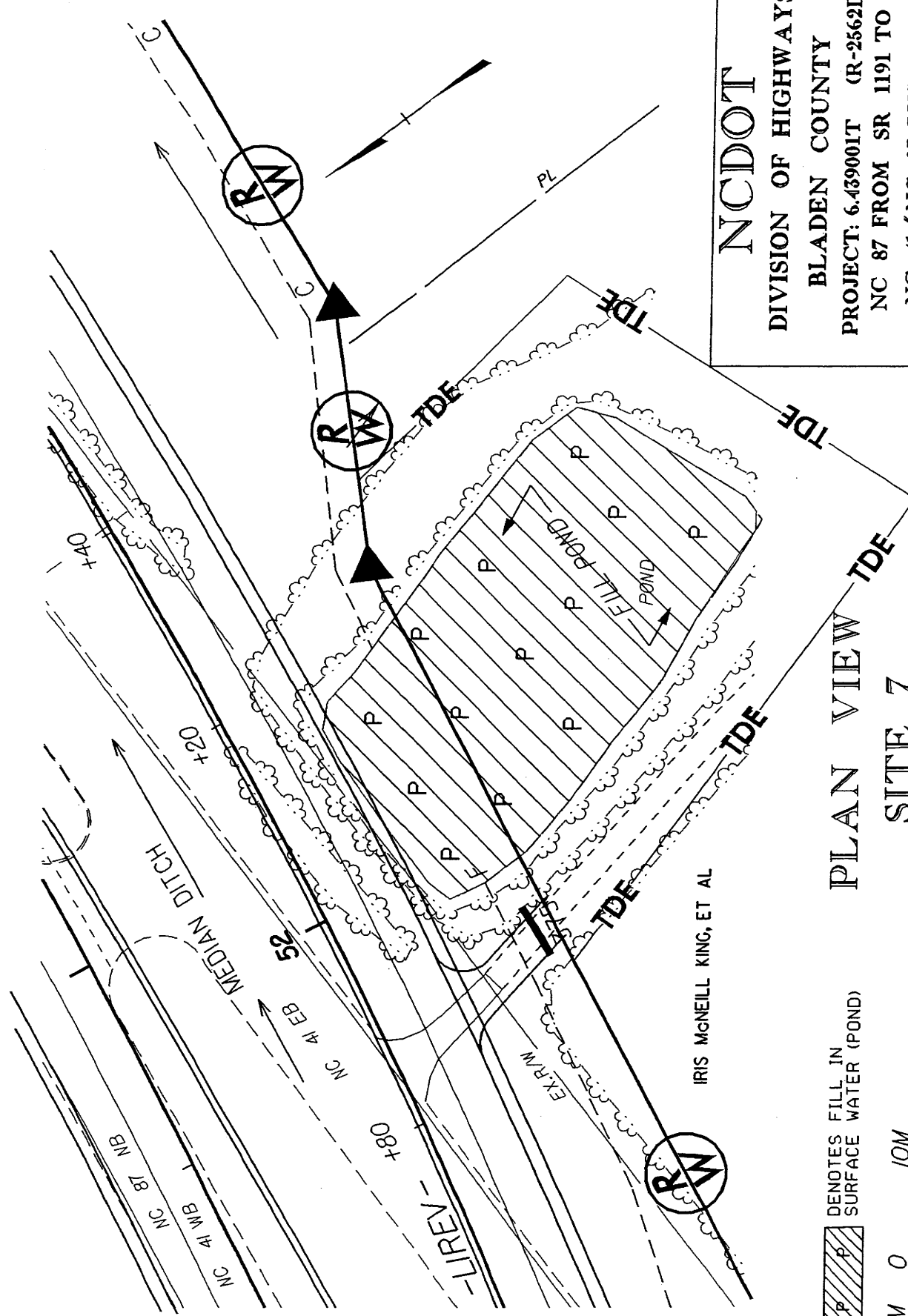


TYPICAL FROM 47+70 TO 48+00 -LREV- (RT)

X-SECTION

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.439001T (R-562D)
 NC 87 FROM SR 1191 TO
 NC 41/NC 87 BUSINESS

SHEET 19 OF 26



IRIS McNEILL KING, ET AL

NCDOT

DIVISION OF HIGHWAYS

BLADEN COUNTY

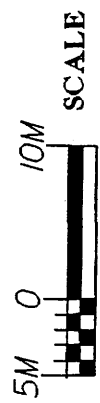
PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO

NC 41/NC 87 BUSINESS

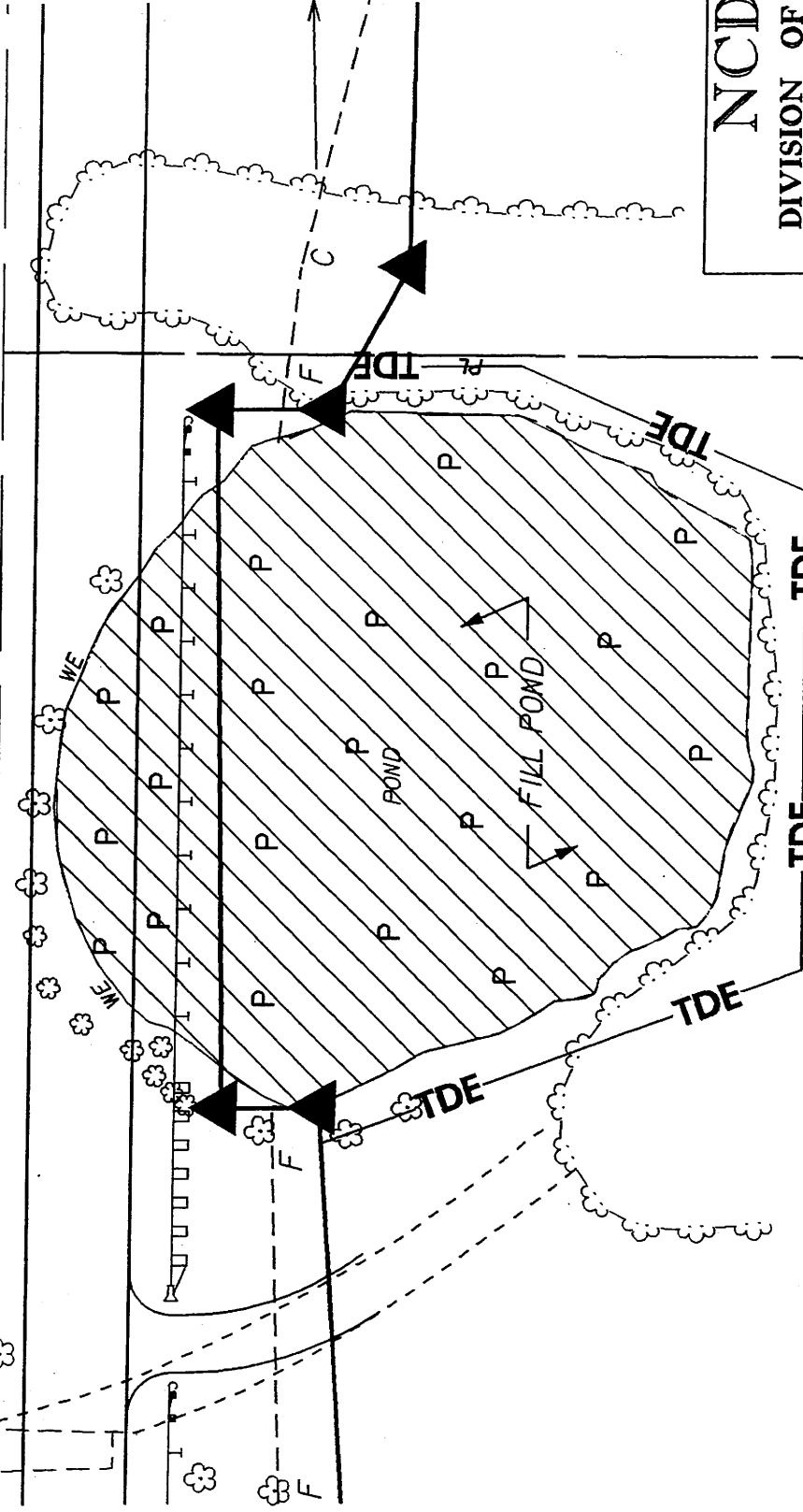
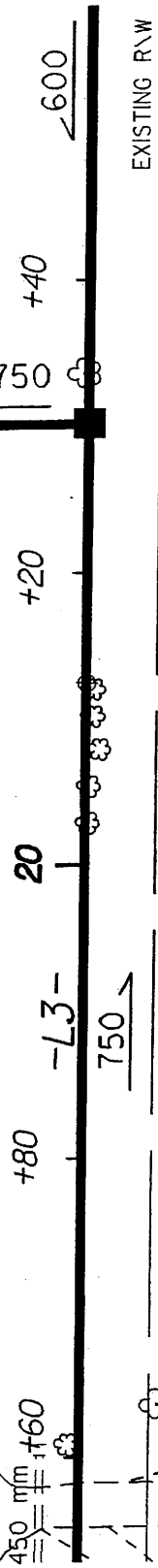
SHEET 20 OF 20

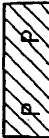
 DENOTES FILL IN
 SURFACE WATER (POND)

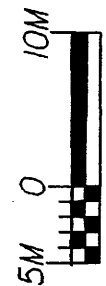


PLAN VIEW
SITE 7

NC 87 / NC 41



 DENOTES FILL IN SURFACE WATER (POND)

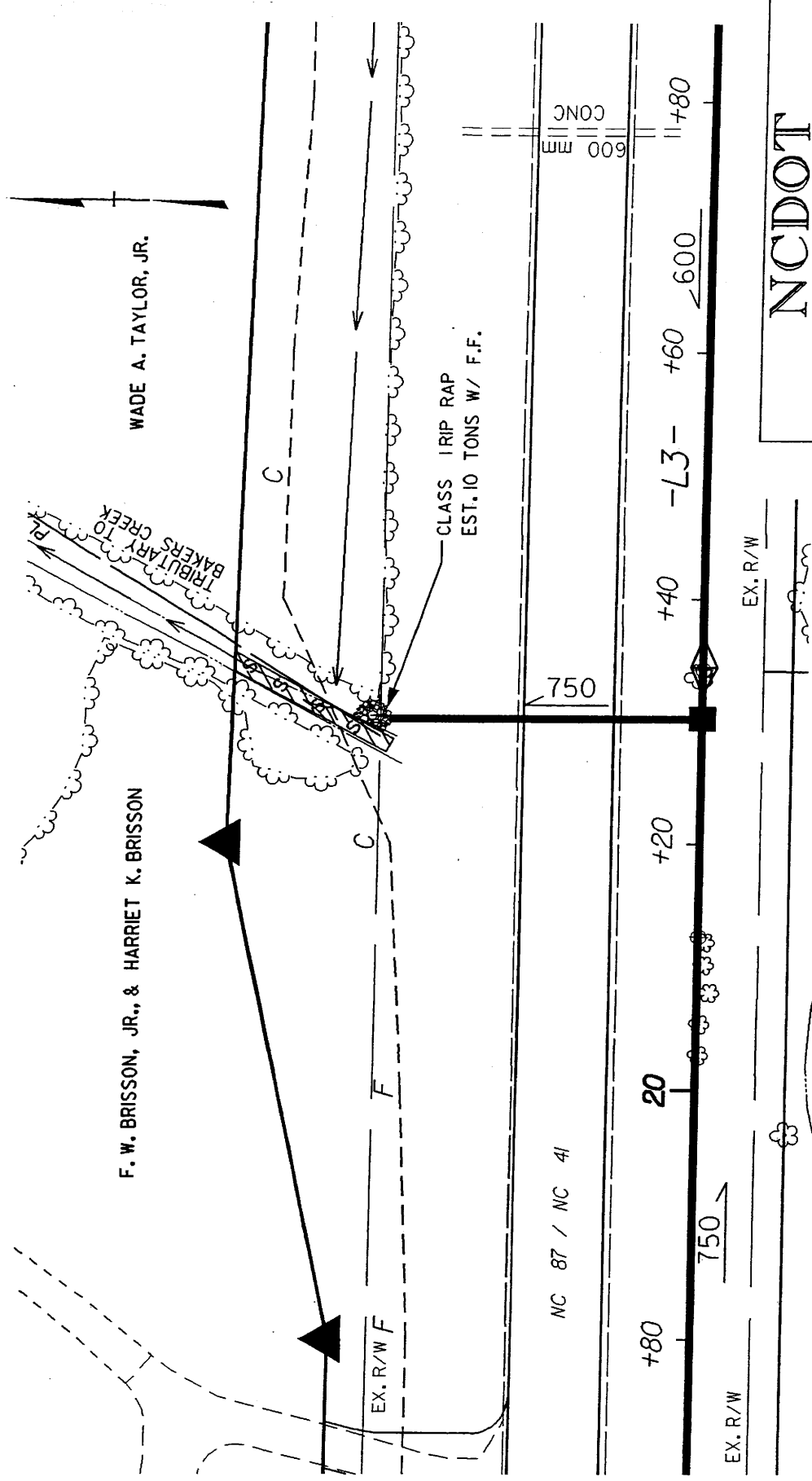


SCALE

PLAN VIEW
SITE 8

NCDOT
 DIVISION OF HIGHWAYS
 BLADEN COUNTY
 PROJECT: 6.459001T (R-2562D)
 NC 87 FROM SR 1191 TO
 NC 41 / NC 87 BUSINESS

SHEET 37 OF 76



F. W. BRISSON, JR., & HARRIET K. BRISSON

WADE A. TAYLOR, JR.

CLASS IRIP RAP
EST. 10 TONS W/ F.F.

NC 87 / NC 41

+80 20 +40 -L3- +60 +600 +80

EX. R/W

EX. R/W

POND

DENOTES FILL IN
SURFACE WATER

5M 0 10M

SCALE

PLAN VIEW

SITE 8

NCDOT

DIVISION OF HIGHWAYS

BLADEN COUNTY

PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO

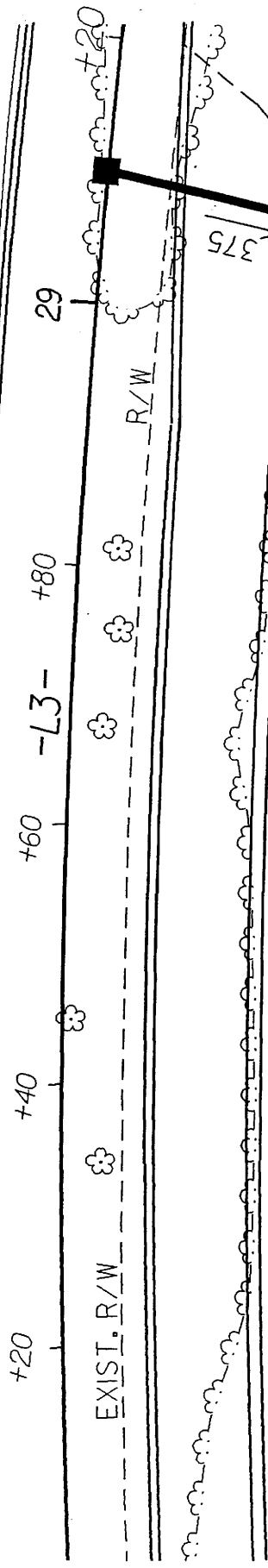
NC 41/NC 87 BUSINESS

SHEET 22 OF 26

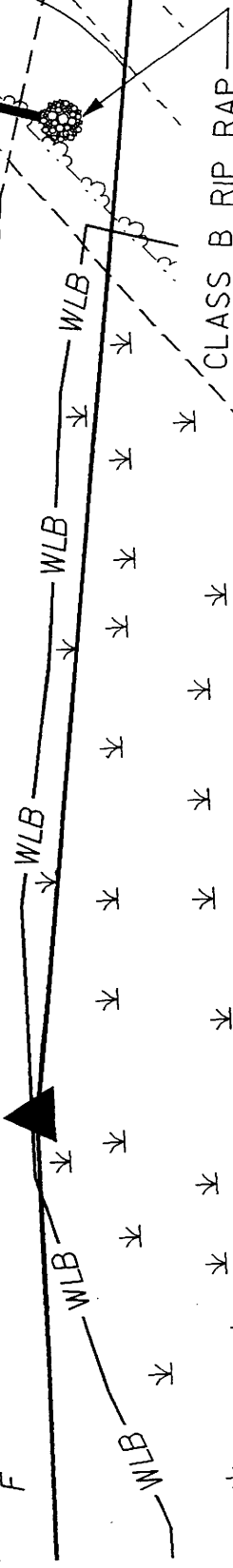
F

F

NC 87 / NC 41



3:1 Side Slopes



CLASS B RIP RAP

PEGGY B. HILL & GERALD B. CLARK

NCDOT

DIVISION OF HIGHWAYS

BLADEN COUNTY

PROJECT: 6.439001T (R-2562D)

NC 87 FROM SR 1191 TO

NC 41/NC 87 BUSINESS

PLAN VIEW

SITE 9



SHEET 23 OF 26