



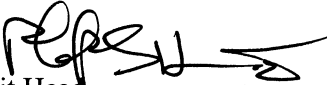
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 18, 2005

MEMORANDUM TO: Mr. Anthony W. Roper, PE
Division 4 Engineer

FROM: Philip S. Harris, III, P.E. 
Natural Environment Unit Head
Project Development and
Environmental Analysis Branch

SUBJECT: Halifax County; Replace Bridges Nos. 40 and 45 over Beech
Swamp on SR 1003; State Work Order Number 8.2301201;
Federal-Aid Project No. BRSTP-1003(23); TIP Number B-3467

Attached are the U. S. Army Corps of Engineers Individual Permit Number 200411359 and the general conditions for the Division of Water Quality 401 for the construction of 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. John F. Sullivan, III, FHWA
Mr. Omar Sultan
Mr. Jamie Shern, Division 4 DEO

PROJECT COMMITMENTS

Halifax County
Bridges No.40 and 45 on SR 1003 Over Beech Swamp
Federal-aid Project No. BRSTP-1003(23)
State Project No. 8.2301201 (WBS No. 33086.1.1)
T.I.P. No. B-3467

In addition to the Individual Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, Design Standards for Sensitive Watersheds, Best Management Practices for Bridge Demolition and Removal, General Certification of Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

Construction Contract Officer, Division Engineer

The Stream Crossing Guidelines for Anadromous Fish Passage will be implemented.

Action: *The plans and contract were prepared in accordance with these guidelines.*

Division Engineer

A moratorium of no in-stream work or discharges into the swamp will be in effect from February 15 through June 30, to protect anadromous fish during spawning.

Action: *The contract will contain a moratorium for in-stream work or discharges into the swamp.*

Roadway Design, Hydraulics Unit, Division Engineer

This project is subject to Tar- Pamlico River Buffer Rules.

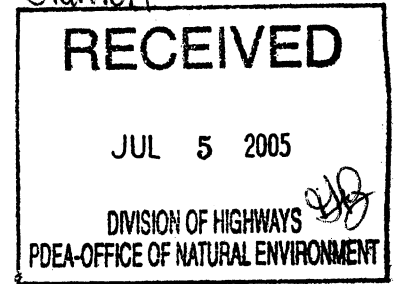
Action: *The Tar- Pamlico River Buffer Rules will be implemented during all phases.*



REPLY TO
ATTENTION OF:

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

June 30, 2005



B-3467

Regulatory Division

Action ID: 200411359

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:

Enclosed is a Department of the Army permit to remove and replace Bridge Nos. 40 and 45, located approximately 850' apart on NCSR 1003, approximately 6 miles east of Enfield, crossing over and adjacent to Beech Swamp in Halifax County.


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.

You should address all questions regarding this authorization to Bill Biddlecome, of my Washington Field Office regulatory staff at telephone (252)975-1616, extension 31.

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

Copies Furnished with special conditions and plans:

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, NOAA
Pivers Island
Beaufort, North Carolina 28516

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

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

Mr. Doug Huggett
NC Division of Coastal Management
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557-3421

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

DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation, Mr. Greg Thorpe, Ph.D.**

Permit No. **200411359**

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: **Remove and replace two functionally obsolete and structurally deficient bridges.**

Project Location: **The project is located at Bridge Nos. 40 and 45 located approximately 850' apart on NCSR 1003, approximately 6 miles east of Enfield, crossing over and adjacent to Beech Swamp in Halifax County.**

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:
 - 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.

- e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
 5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


 _____ 6/24/05
 (PERMITTEE) North Carolina Department of Transportation (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


 for (DISTRICT ENGINEER) CHARLES R. ALEXANDER, JR., COLONEL 6/30/05
 _____ (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

 (TRANSFEE) (DATE)



200411359
200411358
200411357
200020361

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

May 20, 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

RECEIVED

MAY 24 2005

REGULATORY BRANCH

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 the Proposed replacement of Bridge Nos. 40 and 45 on SR 1003 (Thirteen Bridges Road) over Beech Swamp, Halifax County, TIP No. B-3467, State Project No. 8.2301201, Federal Aid Project No. BRSTP-1003(23).
DWQ Project No. 040807

Attached hereto is a copy of Certification No. 3512 issued to The North Carolina Department of Transportation dated May 24, 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. Jim Trogdon, PE, Division 4 Engineer, PO Box 3165, Wilson NC 27895
Mr. Jamie Shern, Division 4 Environmental Officer, PO Box 3165, Wilson NC 27895
Mr. Tyler Stanton, ONE, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604
Mr. William Gilmore, Ecosystem Enhancement Program
NCDWQ Raleigh Regional Office
Central Files
File Copy

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

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 May 13, 2005, for the proposed replacement of Bridge Nos. 40 and 45 on SR 1003 (Thirteen Bridges Road) over Beech Swamp, Halifax County. The approved design is that submitted in your application dated received May 13, 2005. This certification authorizes the following:

Impact Locations	Stream Impacts (Linear Feet)	Riparian Buffer Impacts (Square Feet)	Wetland Impacts (acres)	Temp. Fill in SW (ac)
STA 19 + 75 to STA 21 + 45	0	6,682 (3,023 Zone 1 + 3,659 Zone 2)	NONE	0
STA 15 + 50 to STA 35 + 50	0	0	1.04 (Fill)	0
STA 15 + 50 to STA 35 + 50	0	0	0.04 (Excavation)	0
STA 15 + 50 to STA 35 + 50	0	0	0.67 (Mechanized Clearing)	0
STA 15 + 50 to STA 35 + 50	0	0	0	0.001
Total	0	6,682	1.75	0.001

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 May 13, 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. 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. The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.
 6. When the old bridge is removed, no discharge of bridge material into surface waters is preferred. Strict adherence the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
 7. 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.
 8. 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.
 9. We understand that you have chosen to perform compensatory mitigation for impacts to protected wetlands through the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. The letter from EEP agrees to provide compensation for the 1.75 acres of unavoidable impacts to the wetlands located in CU 03020102 of the Tar-Pamlico River Basin in the Northern Inner Coastal Plain Eco-Region.
 10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S.
 11. 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.

12. No in-water work is permitted between February 15 to June 30 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.
13. 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.
14. All protected riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species upon completion of the project construction. A post-construction as-built with the restoration activities included shall be submitted to the DWQ no later than 60 days after the project is closed out by the Department of Transportation.
15. 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.
16. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
17. All stormwater runoff shall be directed to sheetflow through stream buffers at nonerosive velocities, unless approved otherwise by this certification.
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 May 13, 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. 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.
23. 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.
24. 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.

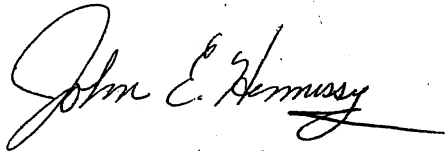
25. Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on 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 20th day of May 2005

DIVISION OF WATER QUALITY

A handwritten signature in black ink, appearing to read "Alan W. Klimek", with a long horizontal flourish extending to the right.

Alan W. Klimek, P.E.
Director

WQC No. 3512

SPECIAL CONDITIONS

COMPLIANCE WITH PLANS

a) 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

b) 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

c) 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.

d) 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

e) 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

f) 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

g) 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.

CONTRACTOR COMPLIANCE

h) 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

i) 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

j) 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 Wilmington District, U. S Army Corps of Engineers, within 24 hours of the permittee's discovery of the violation.

COMPLIANCE WITH SPECIAL CONDITIONS

k) 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

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

PRECONSTRUCTION MEETING

n) 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 USACE,

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 USACE 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

o) 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 USACE 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 USACE before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland lines 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 USACE 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

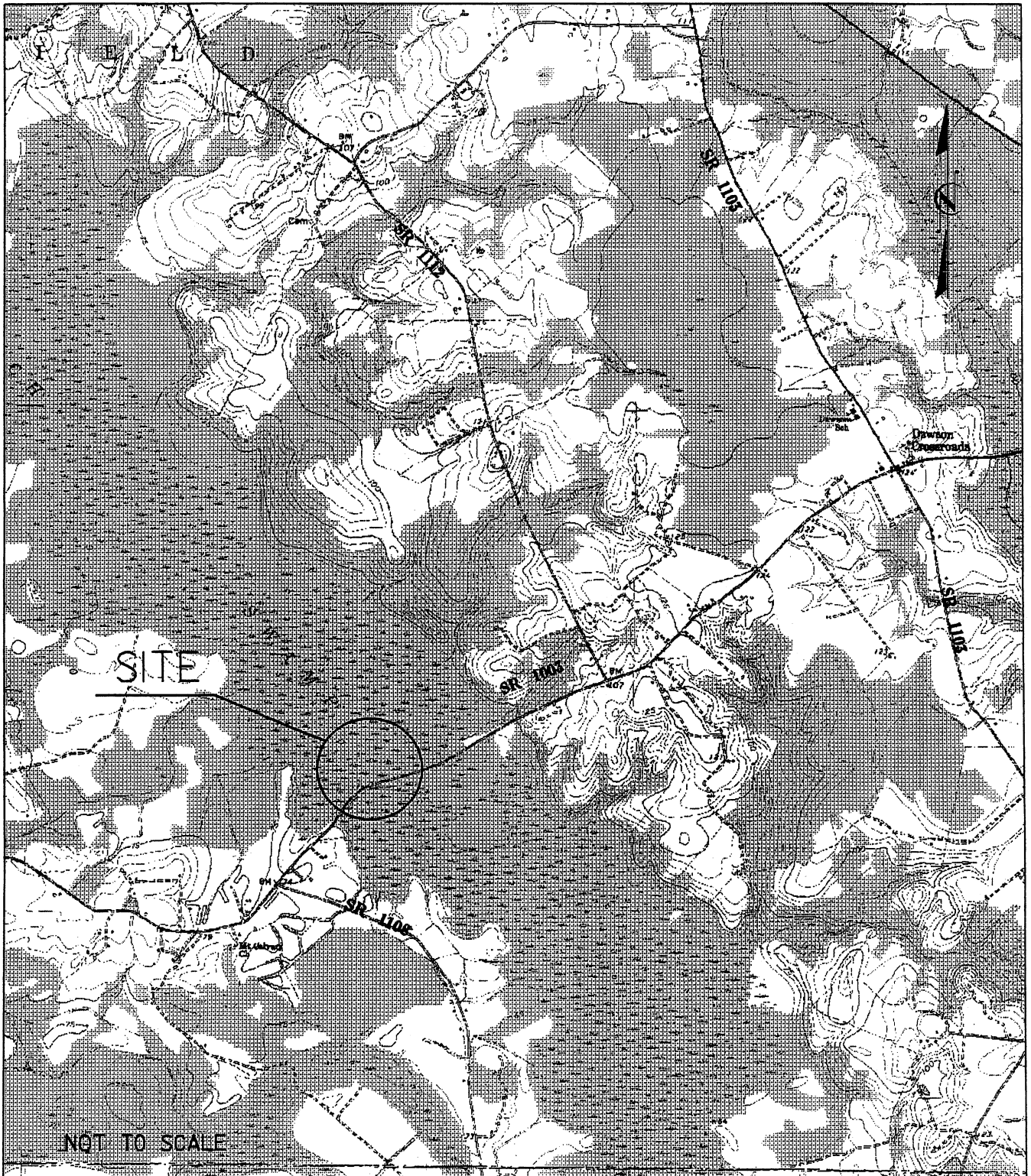
p) Compensatory mitigation for the unavoidable impacts to 1.75 acres of riverine wetlands associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated June 15, 2005, from William D. Gilmore, EEP Director. The EEP will provide 17.5 acres of preservation of riverine wetlands in the Northern Inner Coastal Plain Eco-Region at the Fishing Creek Site in Edgecombe 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 1.75 acres of restoration of riverine wetlands in the Tar-Pamlico River basin (Hydrologic Cataloging Unit 03020102 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.

MORATORIUMS

q) A moratorium on all work in the waters of Beech Swamp and its tributaries will be in effect from March 1 to June 30 of any year.

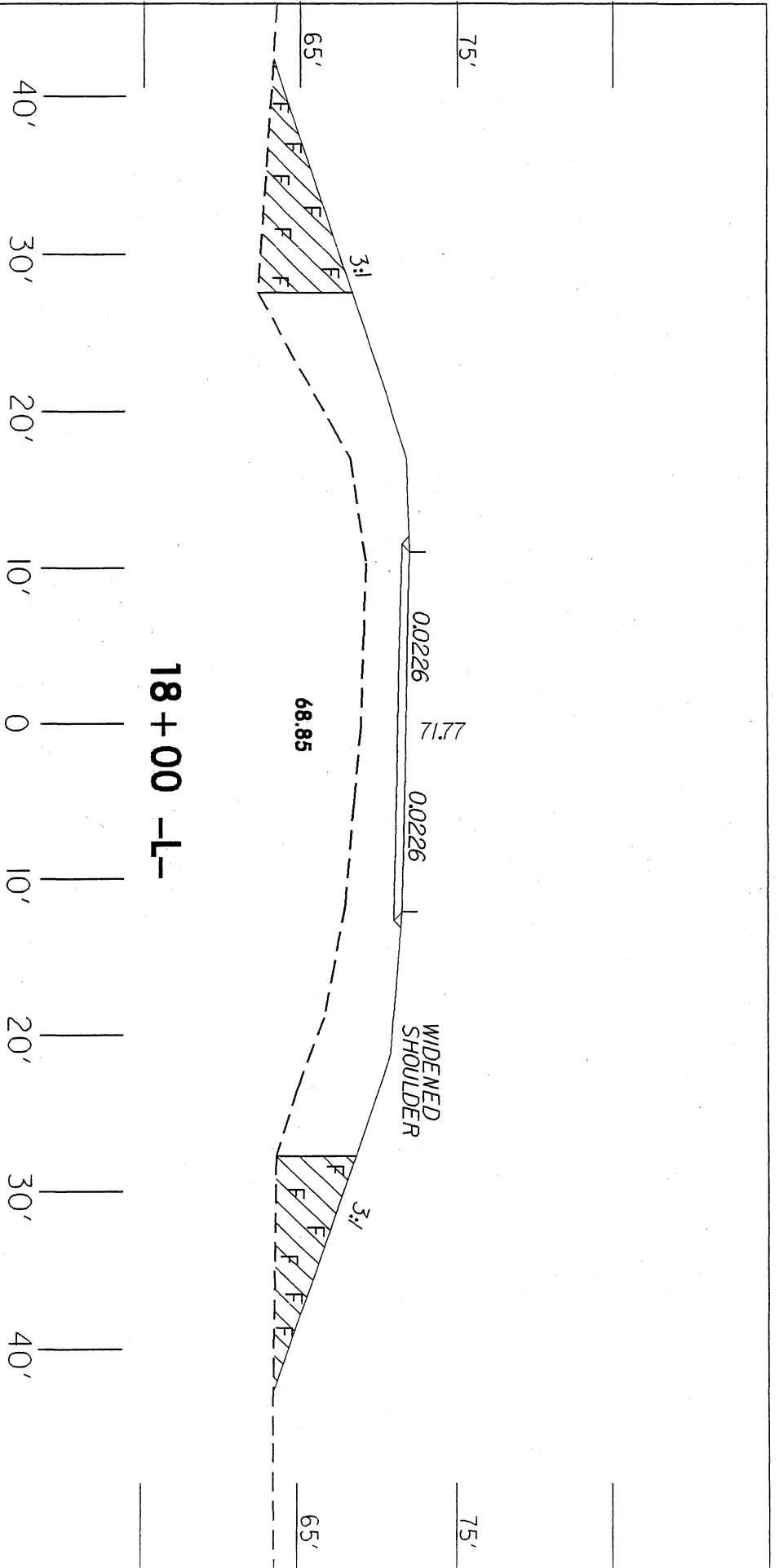
r) The permittee will follow NCDOT adopted anadromous fish stream crossing guidelines.



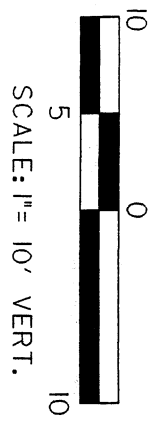
LOCATION MAP

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#] 40 AND BRG[#] 45
OVER BEECH SWAMP ON SR 1003



 DENOTES FILL IN WETLAND



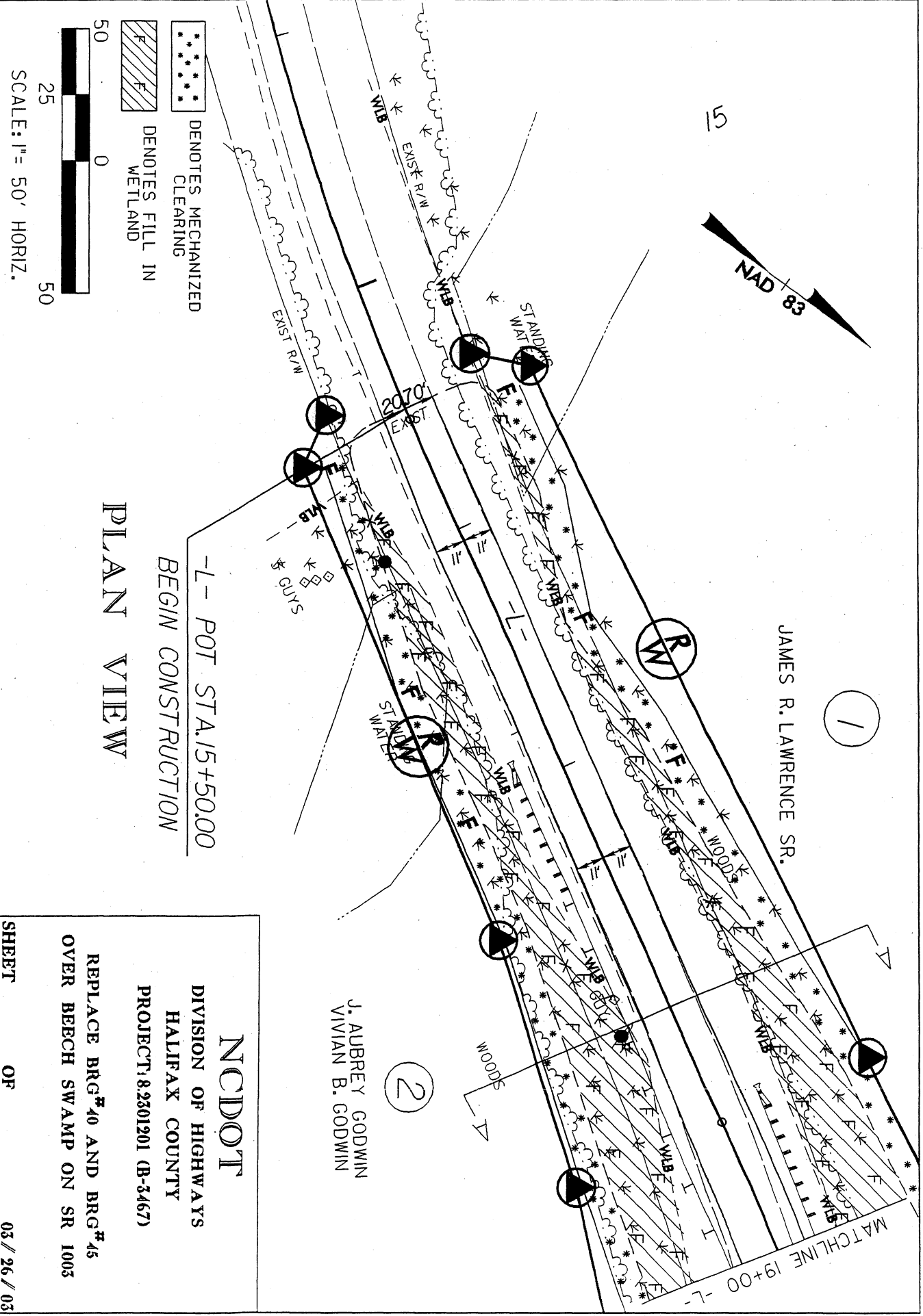
SECTION A-A



NCDOT
 DIVISION OF HIGHWAYS
 HALIFAX COUNTY
 PROJECT 182301201 (B-3467)

REPLACE BRG# 40 AND BRG# 45
 OVER BEECH SWAMP ON SR 1003

SHEET OF 03/26/03



PLAN VIEW

-L- POT STA. 15+50.00
 BEGIN CONSTRUCTION

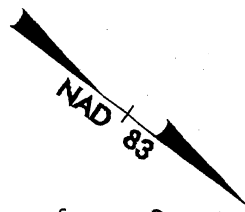
JAMES R. LAWRENCE SR.

J. AUBREY GODWIN
 VIVIAN B. GODWIN

NC DOT
 DIVISION OF HIGHWAYS
 HALIFAX COUNTY
 PROJECT 18.2301201 (B-3467)

REPLACE BRG# 40 AND BRG# 45
 OVER BEECH SWAMP ON SR 1003

SHEET OF 03 / 26 / 03



20

JAMES R. LAWRENCE SR. & VIVIAN B. GODWIN

1

BEECH SWAMP

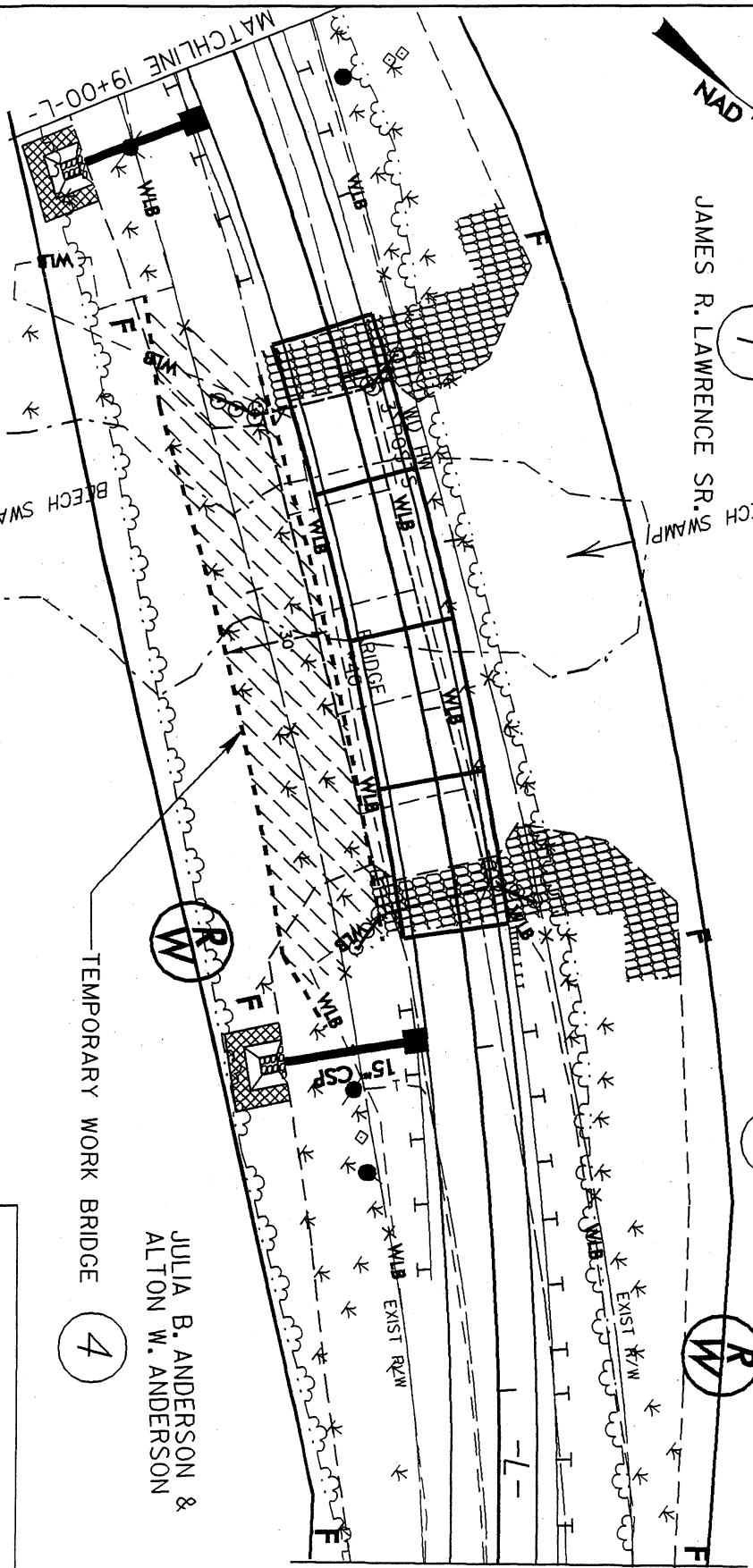
CURTIS R. TURNER

3

23

R/W

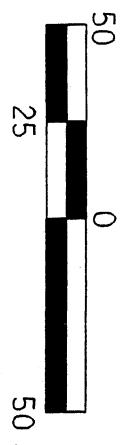
MATCHLINE 23+50 -L-



PLAN VIEW



TEMPORARY WORK BRIDGE



J. AUBREY GODWIN
VIVIAN B. GODWIN

JULIA B. ANDERSON &
ALTON W. ANDERSON

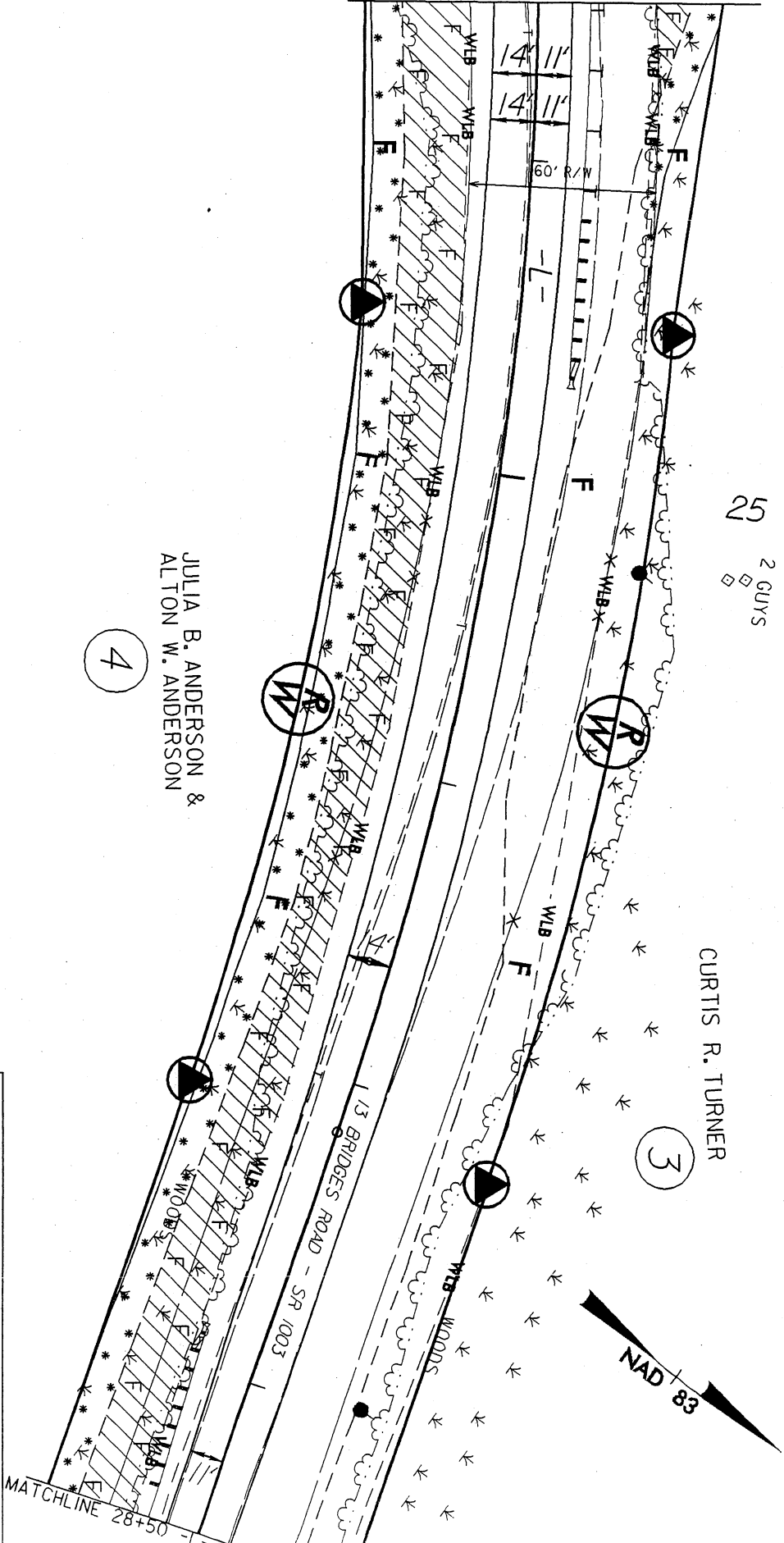
NCDDOT

DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT: 8.2301201 (B-3467)

REPLACE BRG# 40 AND BRG# 45
OVER BEECH SWAMP ON SR 1003

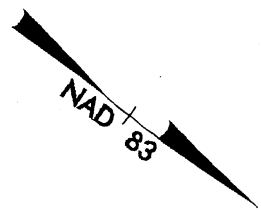
SHEET OF 01/22/04

MATCHLINE 23+50 -L-



25
2 GUYS

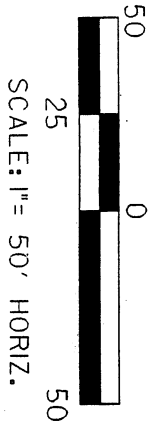
CURTIS R. TURNER
3



DENOTES MECHANIZED
CLEARING

F
DENOTES FILL IN
WETLAND

PLAN VIEW



NCIDOT
DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT 182801201 (B-3467)

REPLACE BRG# 40 AND BRG# 45
OVER BEECH SWAMP ON SR 1003

SHEET _____ OF _____ 03 // 26 // 03

3

CURTIS R. TURNER

30

TEMPORARY WORK BRIDGE

3

CURTIS R. TURNER

32

R/W

MATCHLINE 28+50 -L-

MATCHLINE 33+00 -L-

JULIA B. ANDERSON &
ALTON W. ANDERSON

JULIA B. ANDERSON &
ALTON W. ANDERSON

4

4

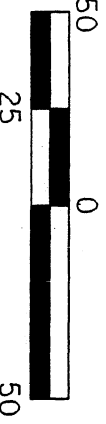
BEECH SWAMP

BEECH SWAMP

BRIDGE #45

R/W

R/W



SCALE: 1" = 50' HORIZ.



TEMPORARY WORK BRIDGE

PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

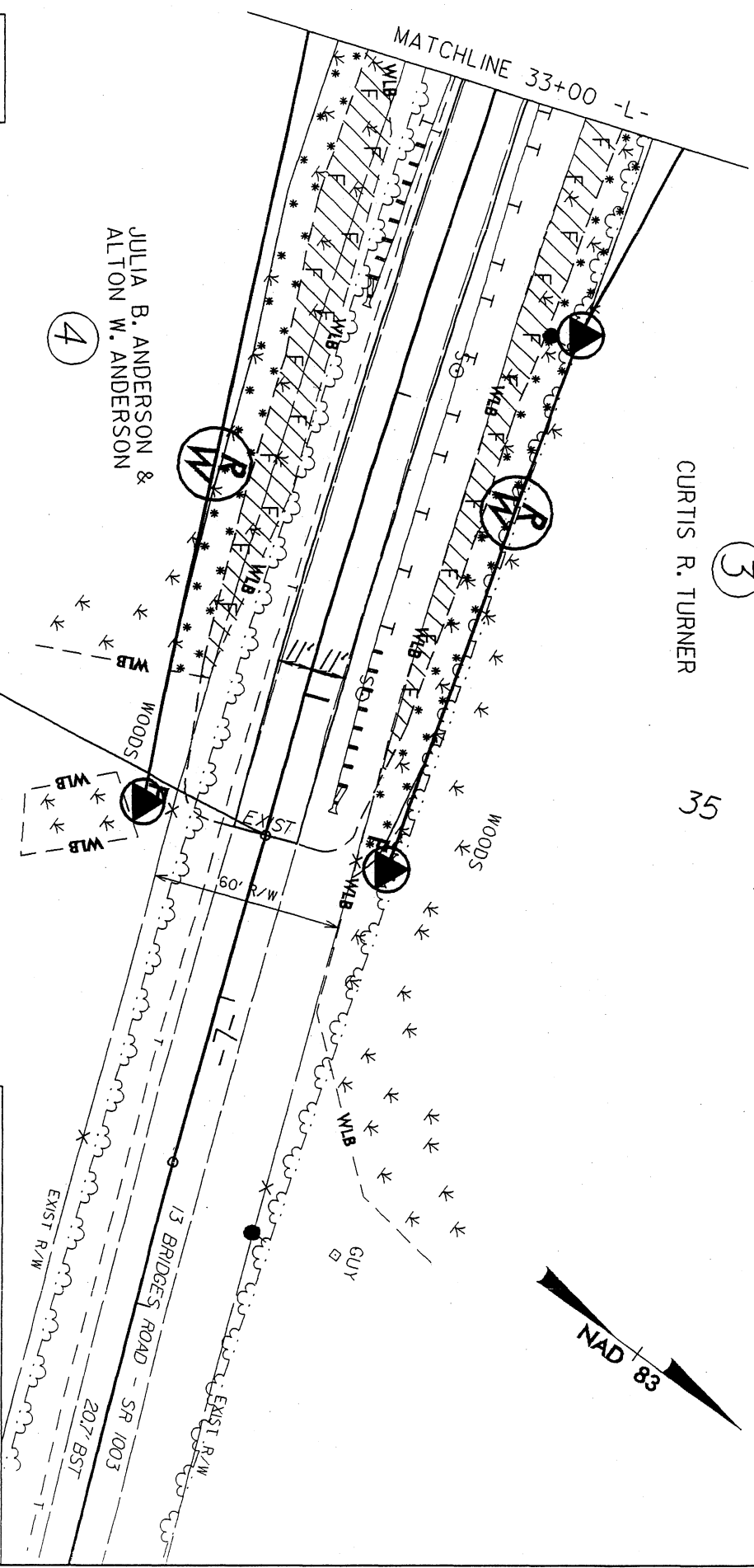
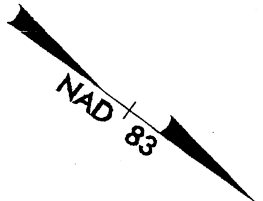
REPLACE BRG#40 AND BRG#45
OVER BEECH SWAMP ON SR 1003

SHEET OF 01/22/04



3
CURTIS R. TURNER

35



END CONSTRUCTION
-L- STA. 35+46.97

PLAN VIEW

DENOTES MECHANIZED CLEARING

 DENOTES FILL IN WETLAND

 SCALE: 1" = 50' HORIZ.

NC DOT

 DIVISION OF HIGHWAYS

 HALIFAX COUNTY

 PROJECT: 8.2301201 (B-3467)

REPLACE BRG#40 AND BRG#45

 OVER BEECH SWAMP ON SR 1003

SHEET OF 03 / 26 / 03

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	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	15+50-.35+50-L-	#40- 4@45', 36" Prestressed O.A.L. - 180'	1.04	0	0.04	0.67	0	0	0.001	0	0
		#45- 3@43', 36" Prestressed O.A.L. - 129'									
TOTALS:			1.04	0	0.04	0.67	0	0	0.001	0	0

NCDOT

DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT 8.2301201 (B-3467)

BRIDGE#40 AND #45 OVER BEECH
SWAMP ON SR 1003

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES R. LAWRENCE SR.	107 NELSON DR. ROANOKE RAPIDS, N.C. 27870
2	J. AUBREY GODWIN	3201 TILGHMAN RD. WILSON, N.C. 27893
3	C.R. TURNER JR.	6 LONG STREET RD. WELDON, N.C. 27890
4	JULIA B. ANDERSON	200 RAILROAD STREET ENFIELD, N.C. 27823

NCDOT

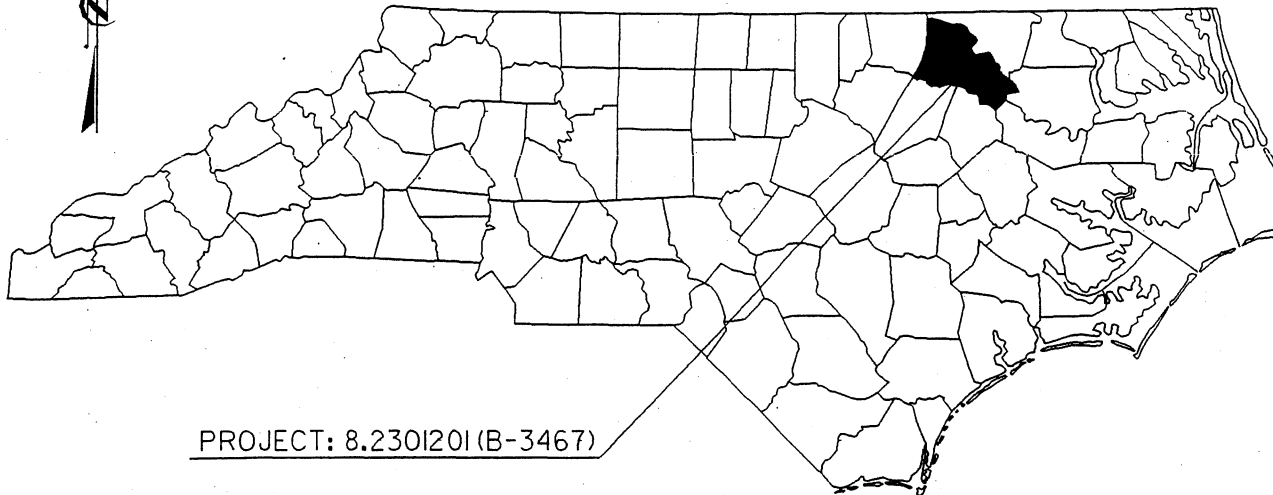
DIVISION OF HIGHWAYS

HALIFAX COUNTY

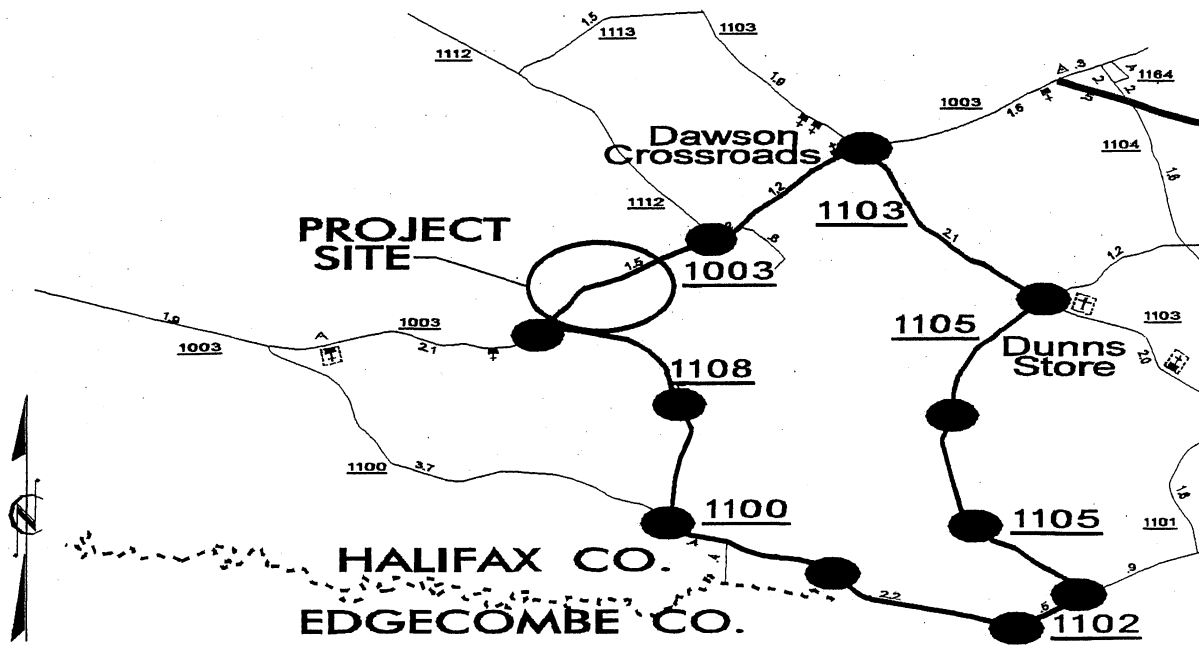
PROJECT: 8.2301201 (B-3467)

REPLACE BRG. #40 AND BRG. #45
OVER BEECH SWAMP ON SR 1003

NORTH CAROLINA



PROJECT: 8.2301201(B-3467)



VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS

HALIFAX COUNTY

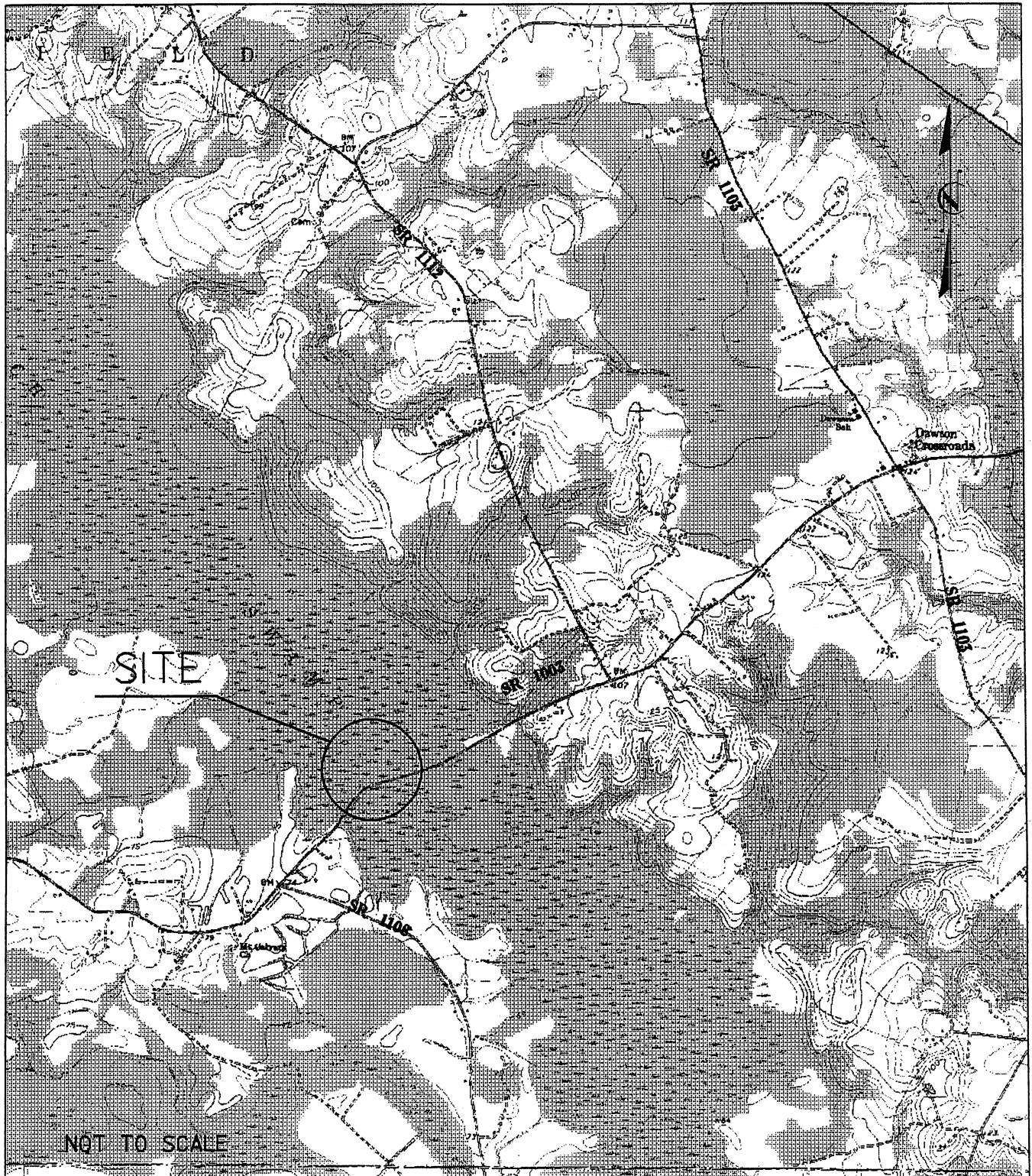
PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003

SHEET

OF

03 / 27 / 03




LOCATION MAP

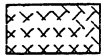
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALIFAX COUNTY
PROJECT: 8.2301201 (B-3467)

REPLACE BRG[#] 40 AND BRG[#] 45
OVER BEECH SWAMP ON SR 1003

BUFFER LEGEND

— WLB — WETLAND BOUNDARY

 WETLAND

 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

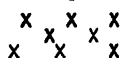
— TDE — TEMP. DRAINAGE EASEMENT


— PDE — PERMANENT DRAINAGE EASEMENT

— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY

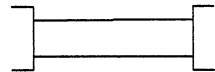
— EPB — EXIST. ENDANGERED PLANT BOUNDARY

— Δ — WATER SURFACE


 LIVE STAKES


 BOULDER

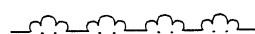
— — — CORE FIBER ROLLS

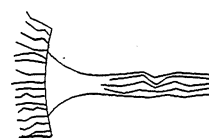
 PROPOSED BRIDGE

 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

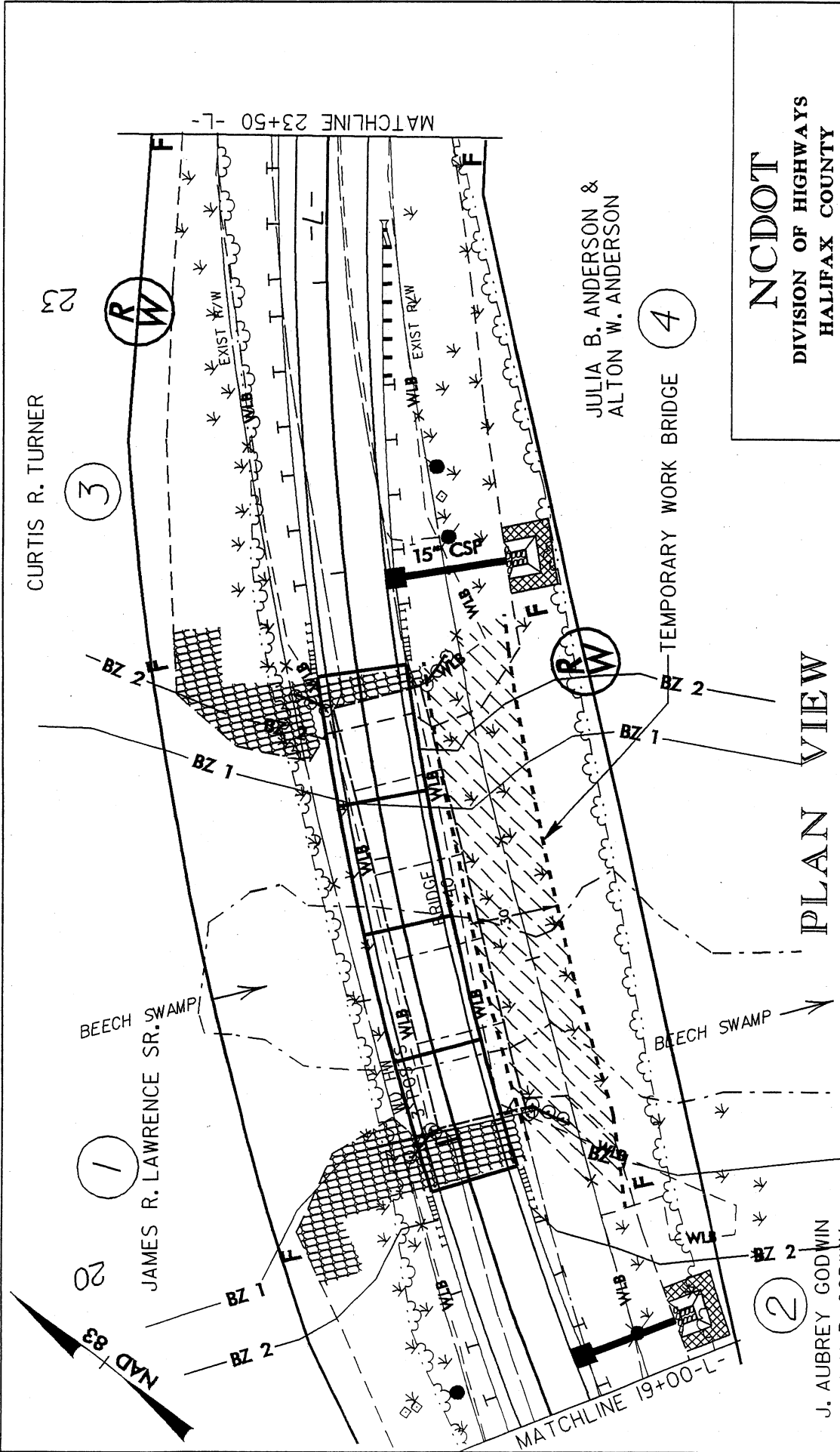
 PREFORMED SCOUR HOLE (PSH)

 LEVEL SPREADER (LS)

 GRASS SWALE

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

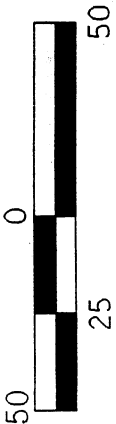
PROJECT: 8.2301201 (B-3467)
REPLACE BRG[#]40 AND BRG[#]45
OVER BEECH SWAMP ON SR 1003



PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
 HALIFAX COUNTY
 PROJECT: 8:2301201 (B-3467)



TEMPORARY WORK BRIDGE

SHEET OF 01/22/04

REPLACE BRG#40 AND BRG#45
 OVER BEECH SWAMP ON SR 1003

J. AUBREY GODWIN
 VIVIAN B. GODWIN

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT						BUFFER REPLACEMENT				
			TYPE		ALLOWABLE		MITIGABLE		TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)		
			ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)				ZONE 2 (ft ²)	
1	Bridge 4@45', 36" Prestressed O.A.L.-180'	19+75-21+45-L-	X			3023.0	3659.0	6682.0	0.0	0.0	0.0	0.0	0.0
TOTAL:						3023.0	3659.0	6682.0	0.0	0.0	0.0	0.0	0.0

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 HALIFAX COUNTY
 PROJECT: 8.2301201 (B-3467)
 REPLACE BRG#40 AND #45 OVER
 BEECH SWAMP ON SR 1003
 SHEET 5 OF 6 03/26/03

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES R. LAWERENCE SR.	107 NELSON DR. ROANOKE RAPIDS, N.C. 27870
2	J. AUBREY GODWIN	3201 TILGHMAN RD. WILSON, N.C. 27893
3	C.R. TURNER JR.	6 LONG STREET RD. WELDON, N.C. 27890
4	JULIA B. ANDERSON	200 RAILROAD STREET ENFIELD, N.C. 27823

NCDOT

DIVISION OF HIGHWAYS

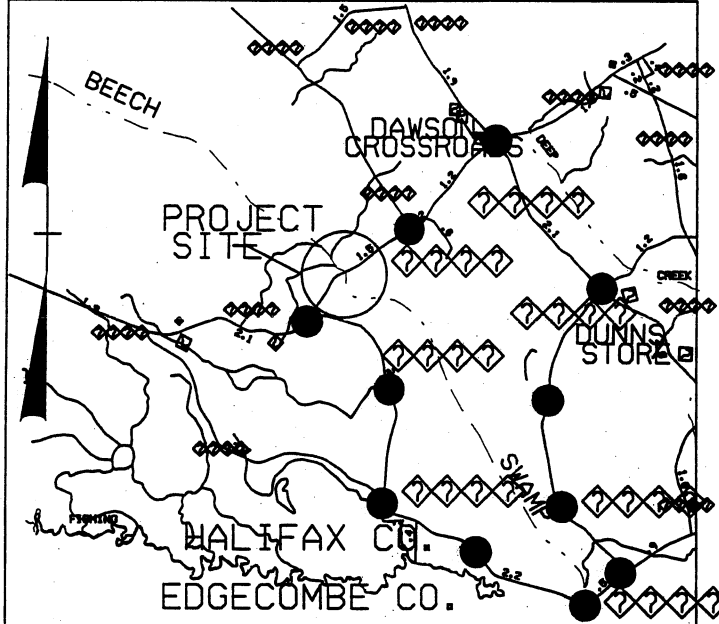
HALIFAX COUNTY

PROJECT: 8.2301201 (B-3467)

**REPLACE BRG. #40 AND BRG. #45
OVER BEECH SWAMP ON SR 1003**

CONTRACT TIP PROJECT: B-3467
 \$\$\$USERNAME\$\$\$

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



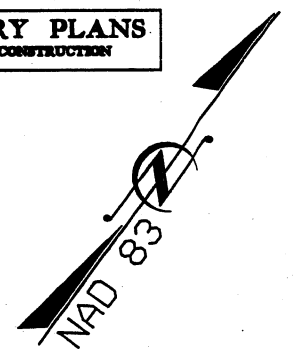
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS HALIFAX COUNTY

LOCATION: BRIDGE NOS. 40 AND 45 OVER BEECH SWAMP
ON SR 1003 (13 BRIDGES ROAD)

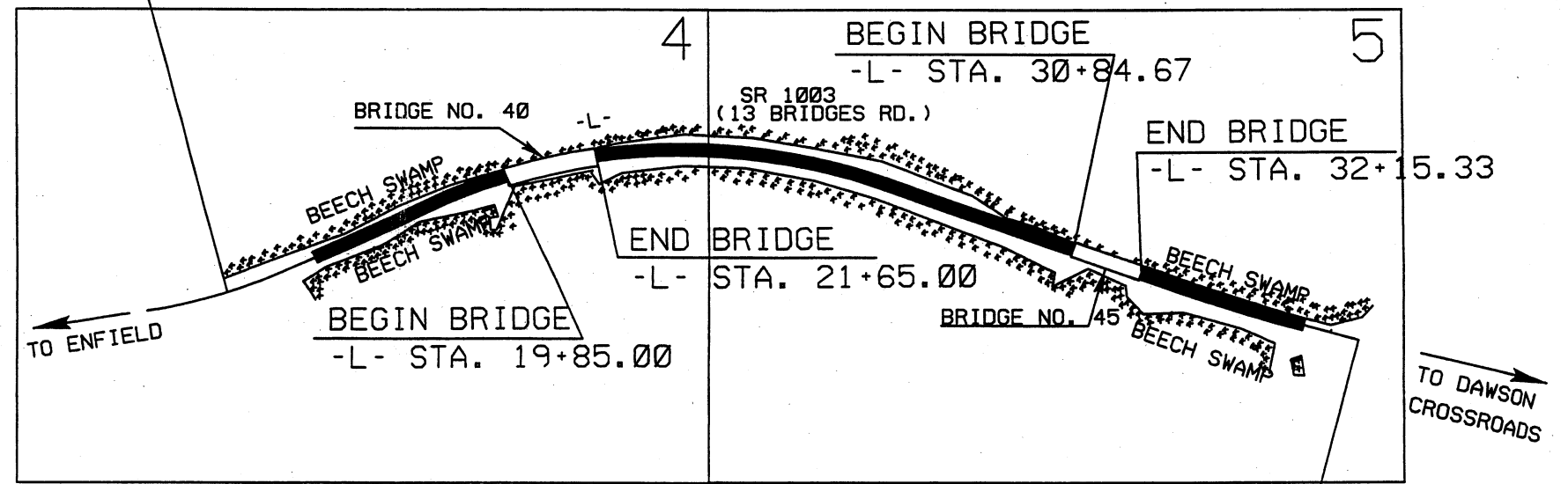
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT NUMBER NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3467	1	
STATE PROJECT NO.	P.A. PROJECT NO.	DESCRIPTION	
33086.1.1	BRSTP-1003(23)	PE	
33086.2.1	BRSTP-1003(23)	W & UTILITIES	
33086.3.1	BRSTP-1003(23)	CONST	

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



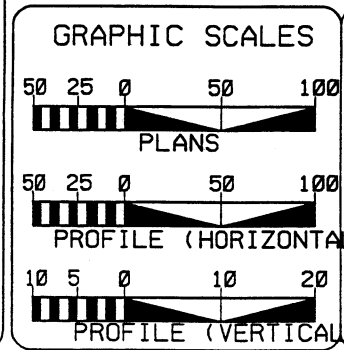
STA. 13+52.58 -L- BEGIN TIP PROJECT B-3467



STA 36+54.28 -L- END TIP PROJECT B-3467

★DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED

- NOTES:
- THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
 - CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III



DESIGN DATA

ADT 2004-	956
ADT 2024-	1474
DHV	10 %
D	60 %
T	3 % *
V	55 MPH *
* TTST 1% DUAL 2%	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3467	0.377 MI
LENGTH STRUCTURE TIP PROJECT B-3467	0.059 MI
TOTAL LENGTH OF TIP PROJECT B-3467	0.436 MI

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DR., NC, 27610

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2003
PROJECT ENGINEER: GARY LOVERING, PE

LETTING DATE: SEPTEMBER 21, 2004
PROJECT DESIGN ENGINEER: ANTHONY C. WEST

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DIVISION ADMINISTRATOR

SIGNATURE: _____ P.E. DATE: _____

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

*S.U.E - SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

EDGE OF PAVEMENT	----
CURB	----
PROP. SLOPE STAKES CUT	-----c-----
PROP. SLOPE STAKES FILL	-----F-----
PROP. WOVEN WIRE FENCE	○-----○
PROP. CHAIN LINK FENCE	□-----□
PROP. BARBED WIRE FENCE	◇-----◇
PROP. WHEELCHAIR RAMP	○-----○
CURB CUT FOR FUTURE WHEELCHAIR RAMP	○-----○
EXIST. GUARDRAIL	-----
PROP. GUARDRAIL	-----
EQUALITY SYMBOL	⊕
PAVEMENT REMOVAL	XXXXXX

RIGHT OF WAY

BASELINE CONTROL POINT	◆
EXISTING RIGHT OF WAY MARKER	H
EXIST. RIGHT OF WAY LINE W/MARKER	-----
PROP. RIGHT OF WAY LINE WITH PROPOSED R/W MARKER (IRON PIN & CAP)	-----▲-----
PROP. RIGHT OF WAY LINE WITH PROPOSED (CONCRETE OR GRANITE) R/W MARKER	-----●-----
EXIST. CONTROL OF ACCESS LINE	-----
PROP. CONTROL OF ACCESS LINE	-----
EXIST. EASEMENT LINE	-----
PROP. TEMP. CONSTRUCTION EASEMENT LINE	-----
PROP. TEMP. DRAINAGE EASEMENT LINE	-----
PROP. PERM. DRAINAGE EASEMENT LINE	-----

HYDROLOGY

STREAM OR BODY OF WATER	-----
RIVER BASIN BUFFER	-----RBB-----
FLOW ARROW	----->-----
DISAPPEARING STREAM	-----
SPRING	-----
SWAMP MARSH	-----
SHORELINE	-----
FALLS, RAPIDS	-----
PROP LATERAL, TAIL, HEAD DITCHES	-----

STRUCTURES

MAJOR BRIDGE, TUNNEL, OR BOX CULVERT	-----
BRIDGE WING WALL, HEAD WALL AND END WALL	-----

MINOR HEAD & END WALL	-----
PIPE CULVERT	=====
FOOTBRIDGE	-----
DRAINAGE BOXES	□
PAVED DITCH GUTTER	-----

UTILITIES

EXIST. POLE	OP
EXIST. POWER POLE	o
PROP. POWER POLE	o
EXIST. TELEPHONE POLE	Q
PROP. TELEPHONE POLE	o
EXIST. JOINT USE POLE	R
PROP. JOINT USE POLE	o
TELEPHONE PEDESTAL	□
U/G TELEPHONE CABLE HAND HOLD	□
CABLE TV PEDESTAL	□
U/G TV CABLE HAND HOLD	□
U/G POWER CABLE HAND HOLD	□
HYDRANT	H
SATELLITE DISH	∩
EXIST. WATER VALVE	∩
SEWER CLEAN OUT	∩
POWER MANHOLE	⊕
TELEPHONE BOOTH	⊕
CELLULAR TELEPHONE TOWER	⊕
WATER MANHOLE	⊕
LIGHT POLE	⊕
H-FRAME POLE	⊕
POWER LINE TOWER	⊕
POLE WITH BASE	⊕
GAS VALVE	⊕
GAS METER	⊕
TELEPHONE MANHOLE	⊕
POWER TRANSFORMER	⊕
SANITARY SEWER MANHOLE	⊕
STORM SEWER MANHOLE	⊕
TANK; WATER, GAS, OIL	⊕
WATER TANK WITH LEGS	⊕
TRAFFIC SIGNAL JUNCTION BOX	⊕
FIBER OPTIC SPLICE BOX	⊕
TELEVISION OR RADIO TOWER	⊕
UTILITY POWER LINE CONNECTS TO TRAFFIC SIGNAL LINES CUT INTO THE PAVEMENT	⊕

RECORDED WATER LINE	-----
DESIGNATED WATER LINE (S.U.E. *)	-----
SANITARY SEWER	-----
RECORDED SANITARY SEWER FORCE MAIN	-----
DESIGNATED SANITARY SEWER FORCE MAIN	-----
RECORDED GAS LINE	-----
DESIGNATED GAS LINE (S.U.E. *)	-----
STORM SEWER	-----
RECORDED POWER LINE	-----
DESIGNATED POWER LINE (S.U.E. *)	-----
RECORDED TELEPHONE CABLE	-----
DESIGNATED TELEPHONE CABLE (S.U.E. *)	-----
RECORDED U/G TELEPHONE CONDUIT	-----
DESIGNATED U/G TELEPHONE CONDUIT (S.U.E. *)	-----
UNKNOWN UTILITY (S.U.E. *)	-----
RECORDED TELEVISION CABLE	-----
DESIGNATED TELEVISION CABLE (S.U.E. *)	-----
RECORDED FIBER OPTICS CABLE	-----
DESIGNATED FIBER OPTICS CABLE (S.U.E. *)	-----
EXIST. WATER METER	⊕
U/G TEST HOLE (S.U.E. *)	⊕
ABANDONED ACCORDING TO U/G RECORD	⊕
END OF INFORMATION	⊕

BOUNDARIES & PROPERTIES

STATE LINE	-----
COUNTY LINE	-----
TOWNSHIP LINE	-----
CITY LINE	-----
RESERVATION LINE	-----
PROPERTY LINE	-----
PROPERTY LINE SYMBOL	-----
EXIST. IRON PIN	⊕
PROPERTY CORNER	⊕
PROPERTY MONUMENT	⊕
PROPERTY NUMBER	⊕
PARCEL NUMBER	⊕
FENCE LINE	-----
EXISTING WETLAND BOUNDARIES	-----
HIGH QUALITY WETLAND BOUNDARIES	-----
MEDIUM QUALITY WETLAND BOUNDARIES	-----
LOW QUALITY WETLAND BOUNDARIES	-----
PROPOSED WETLAND BOUNDARIES	-----
EXISTING ENDANGERED ANIMAL BOUNDARIES	-----
EXISTING ENDANGERED PLANT BOUNDARIES	-----

BUILDINGS & OTHER CULTURE

BUILDINGS	-----
FOUNDATIONS	-----
AREA OUTLINE	-----
GATE	-----
GAS PUMP VENT OR U/G TANK CAP	-----
CHURCH	-----
SCHOOL	-----
PARK	-----
CEMETERY	-----
DAM	-----
SIGN	-----
WELL	-----
SMALL MINE	-----
SWIMMING POOL	-----

TOPOGRAPHY

LOOSE SURFACE	-----
HARD SURFACE	-----
CHANGE IN ROAD SURFACE	-----
CURB	-----
RIGHT OF WAY SYMBOL	R/W
GUARD POST	⊕
PAVED WALK	-----
BRIDGE	-----
BOX CULVERT OR TUNNEL	-----
FERRY	-----
CULVERT	-----
FOOTBRIDGE	-----
TRAIL, FOOTPATH	-----
LIGHT HOUSE	-----

VEGETATION

SINGLE TREE	X
SINGLE SHRUB	Y
HEDGE	UUU
WOODS LINE	UUU
ORCHARD	XXXXXX
VINEYARD	-----

RAILROADS

STANDARD GAUGE	-----
RR SIGNAL MILEPOST	-----
SWITCH	-----

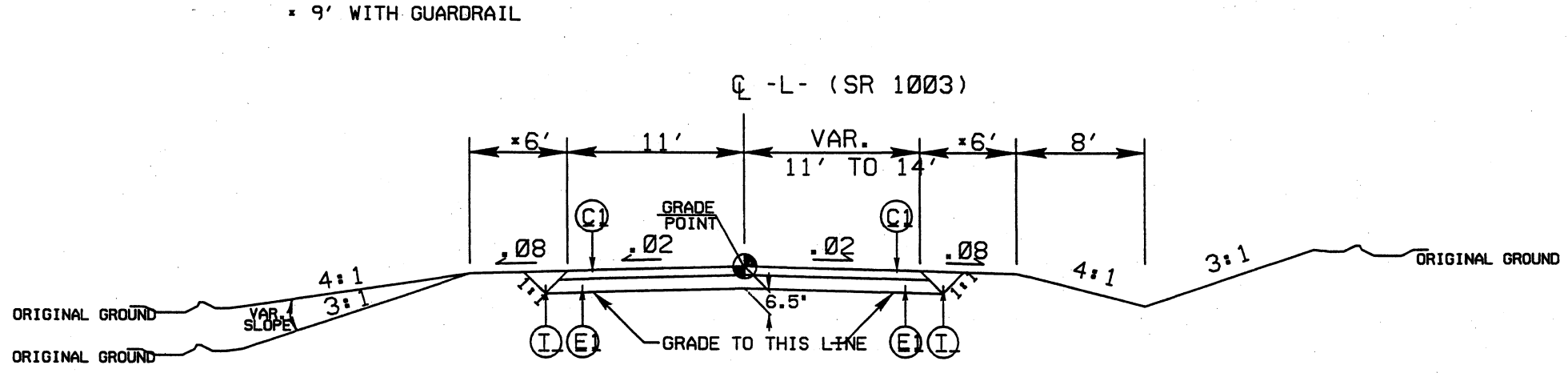
5/28/99

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-3467	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.58. AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE. TYPE B25.08. AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE SHOWN.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

- L- STA. 15+50.00 TO 19+85.00 (BGN BRG)
- L- STA. 21+65.00 (END BRG) TO 30+84.67 (BGN BRG)
- L- STA. 32+15.33 (END BRG) TO 35+46.97

SYSTEMS GROUP
DESIGN DIVISION
COMMUNICATIONS SECTION
REVISIONS

COMPUTED BY: DATE: CHECKED BY: DATE:

N - DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL. TOTAL SHOULDER WIDTH - DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT. FLARE LENGTH - DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL. V - TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL. G - GATING IMPACT ATTENUATOR TYPE 350 NG - NON-GATING IMPACT ATTENUATOR TYPE 350

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

GUARDRAIL SUMMARY

Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), *N* DIST. FROM E.O.L., TOTAL SHOULDER WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), V (APPROACH END, TRAILING END), ANCHORS (TYPE 350, TYPE III), IMPACT ATTENUATOR TYPE 350 (EA, G, NG), REMARKS.

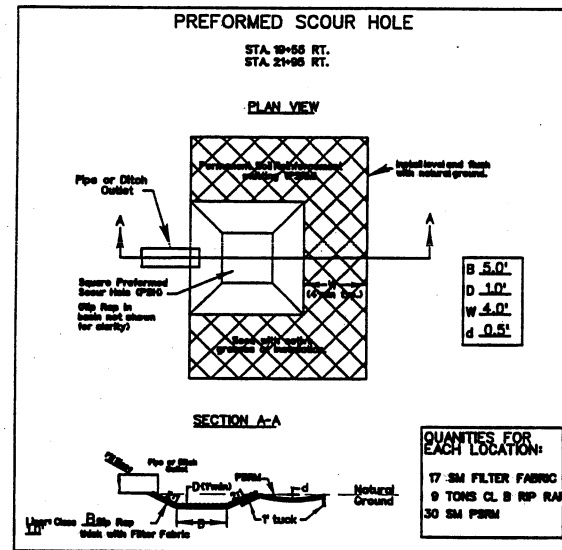
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" AND UNDER)

Table with columns: STATION, LOCATION (L.T., RT., OR CL.), STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE), BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE), ENDWALLS (STD. 830, CU. YDS., R.C.P., C.S.P.), FRAME, GRATES AND HOOD STANDARD 848.03, CORR. STEEL ELBOWS NO. & SIZE, CONC. COLLARS CL. 'B' C.Y. STD 848.72, CONC. & BRICK PIPE PLUG. C.Y. STD. 848.71, PIPE REMOVAL LIN.FT., REMARKS.

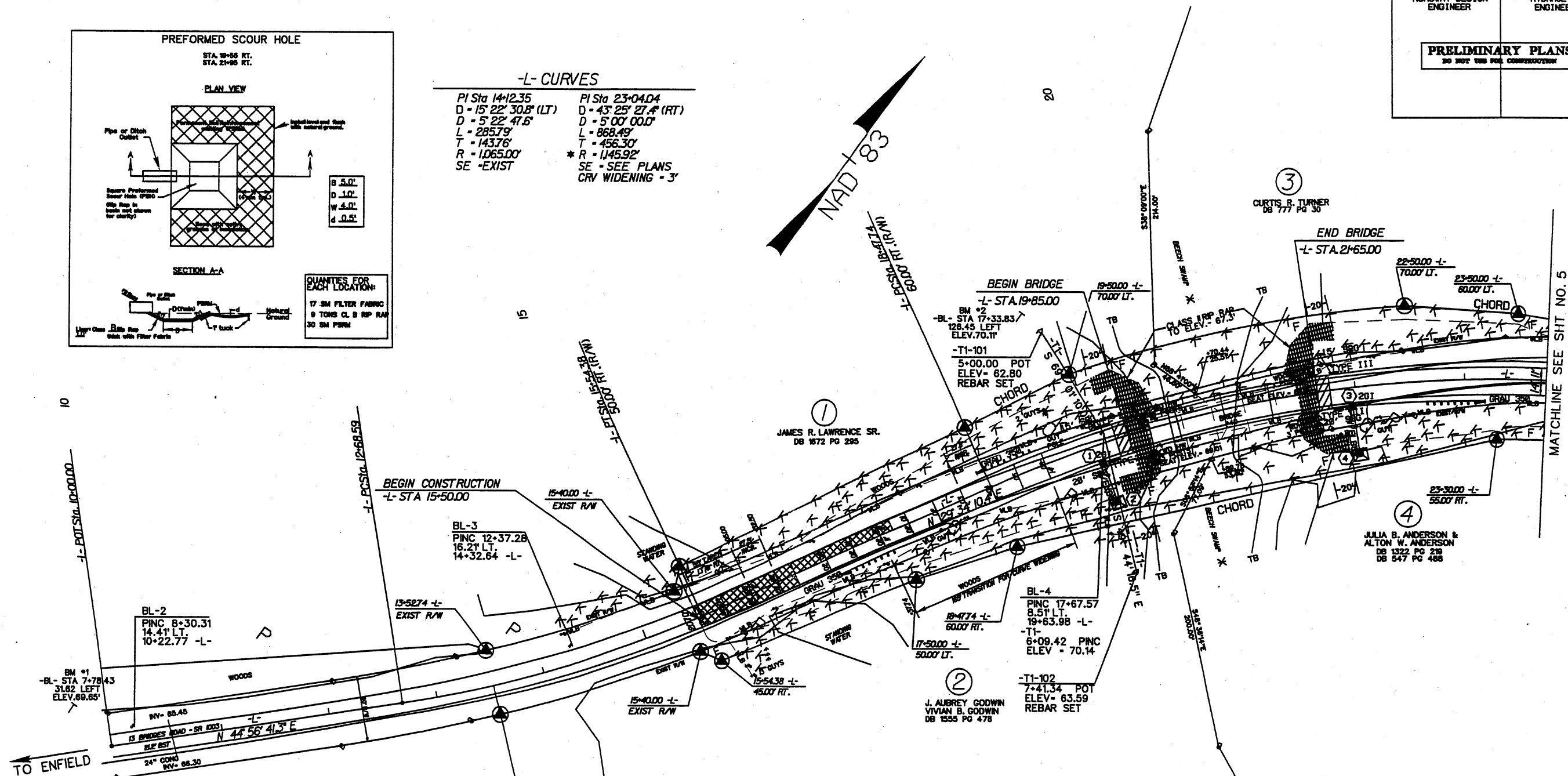
ABBREVIATIONS: C.B. CATCH BASIN, N.D.I. NARROW DROP INLET, D.I. DROP INLET, M.D.I. MEDIAN DROP INLET, J.B. JUNCTION BOX, M.H. MANHOLE, T.B.D.I. TRAFFIC BEARING DROP INLET, T.B.J.B. TRAFFIC BEARING JUNCTION

PROJECT REFERENCE NO.	SHEET NO.
B-3467	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-L- CURVES

PI Sta 14+23.5	PI Sta 23+04.04
D = 15' 22' 30.8" (LT)	D = 43' 25' 27.4" (RT)
D = 5' 22' 47.6"	D = 5' 00' 00.0"
L = 285.79'	L = 868.49'
T = 143.76'	T = 456.30'
R = 1,065.00'	* R = 1,145.92'
SE - EXIST	SE - SEE PLANS
	CRV WIDENING = 3'



BEGIN TIP PROJECT B-3467
-L- STA. 13+52.58
EXIST R/W

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4134-1" WITH NAD 1983/96 STATE PLANE GRID COORDINATES OF NORTHING: 874849.5089(11) EASTING: 2448651.5209(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999427

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4134-1" TO -L- STATION 10+00.00 IS
S 87° 46' 39.28" W 22256.5161 FT.

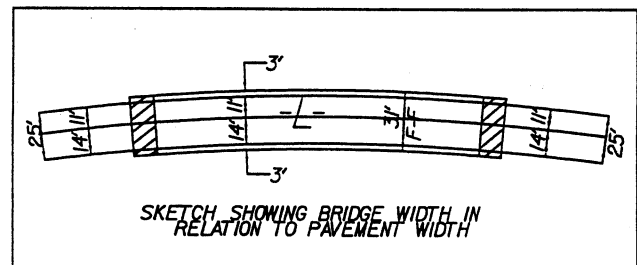
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

PAVEMENT REMOVAL

NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT
-L- STA 16+25 TO 20+00 (RT) AND -L- STA 17+25 TO 20+00 (LT)
FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY - 1260.77 SY

- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

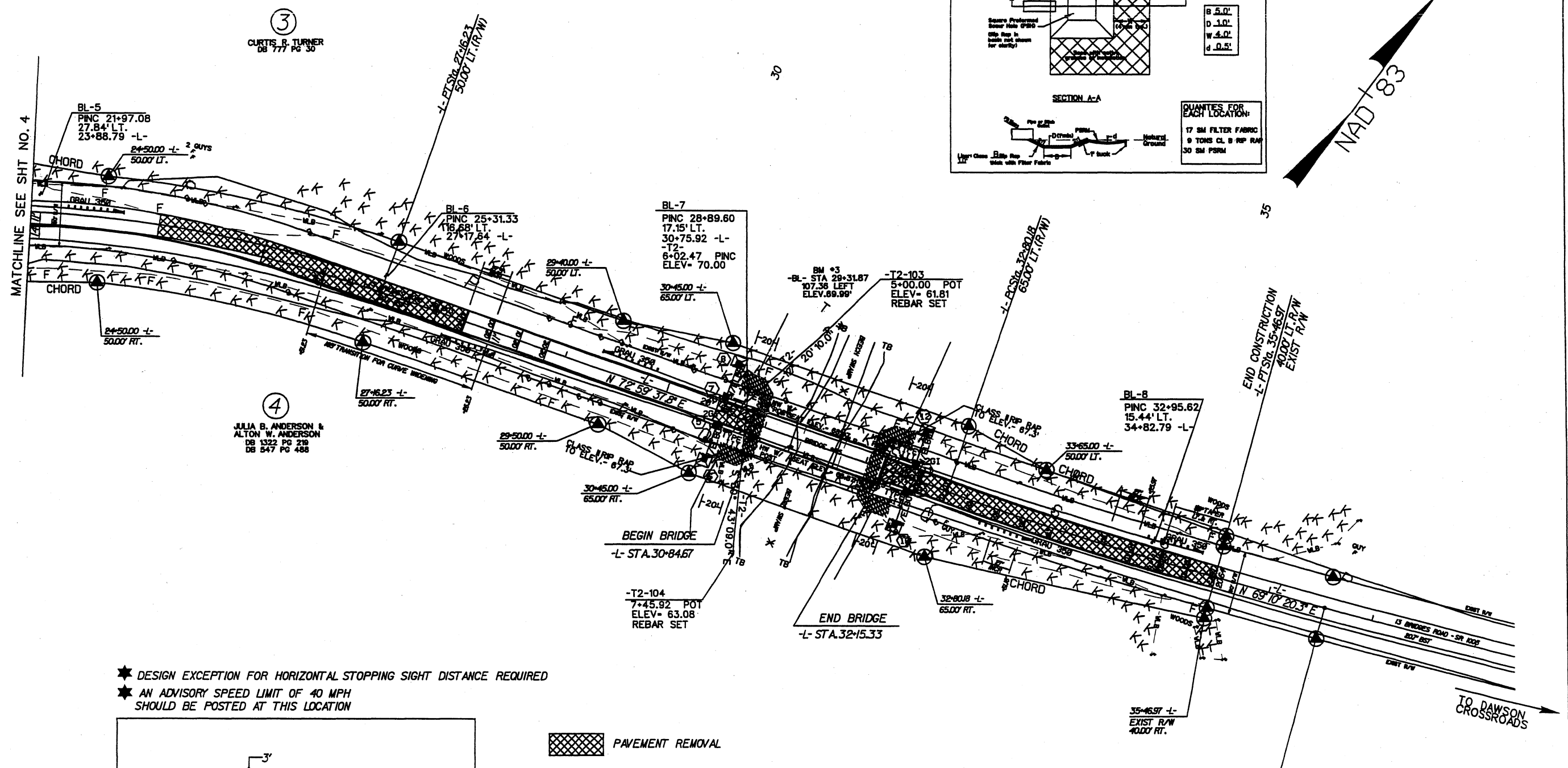
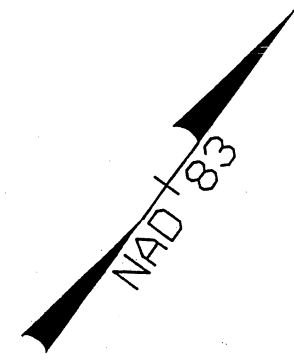
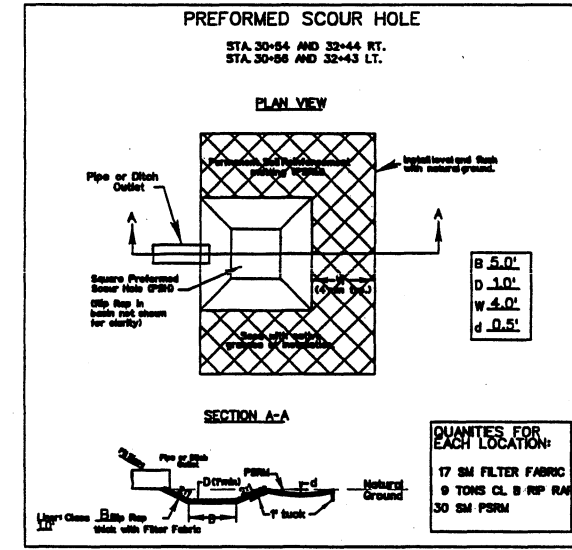
SEE SHEET 6 FOR -L- PROFILE

8/17/99

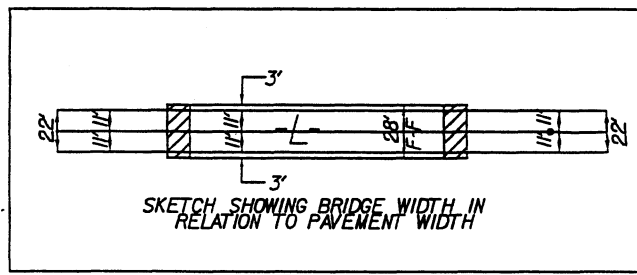
PROJECT REFERENCE NO. B-3467	SHEET NO. 5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L- CURVES

PI Sta 23+04.04 D = 43' 25" 27.4' (RT) D = 5' 00" 00.0' L = 868.49' T = 456.30' R = 1145.92' SE - SEE PLANS CRV WIDENING = 3'	PI Sta 34+13.62 D = 3' 49" 17.5' (LT) D = 1' 25" 56.6' L = 266.79' T = 133.45' R = 4000.00' SE - SEE PLANS	PI Sta 38+39.13 D = 4' 42" 16.4' (LT) D = 1' 16" 23.7' L = 369.50' T = 184.85' R = 4500.00' SE - EXIST
--	--	--



- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



PAVEMENT REMOVAL

NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT
-L- STA 21+60 TO 31+00 (RT), 21+60 TO 23+75 (LT), 26+50 TO 31+00 (LT),
32+10 TO 35+47 (RT) AND 32+10 TO 35+47 (LT)
FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY - 367171 SY

END TIP PROJECT B-3467
-L- PCSTA. 36+54.28
EXIST R/W LT. & RT.

NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE

*****USERNAME*****

5/28/99

PROJECT REFERENCE NO. B-3467	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

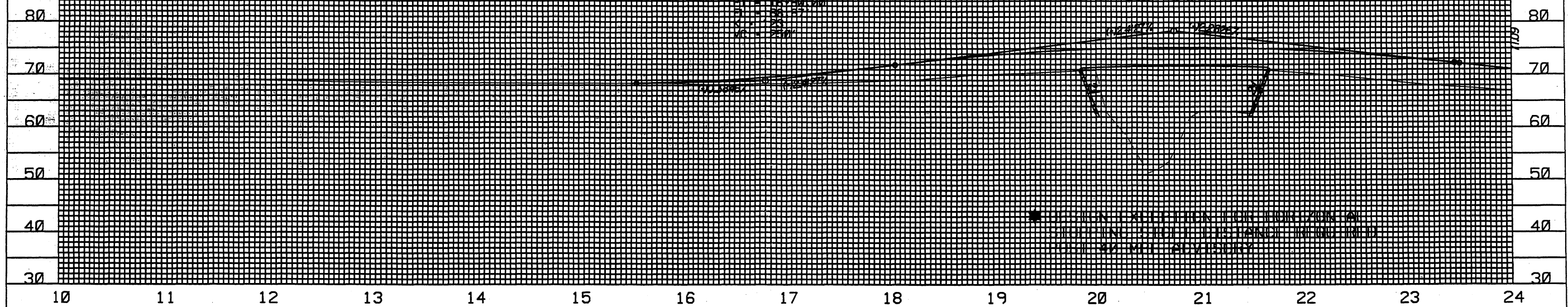
STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 412 CFS
DESIGN FLOW VELOCITY = 1.0 M/S
DESIGN FLOW ELEVATION = 55.28
DESIGN FLOW AREA = 412 SQ FT
DESIGN FLOW VELOCITY = 1.0 M/S
DESIGN FLOW ELEVATION = 55.28
DESIGN FLOW AREA = 412 SQ FT

BELOW BRIDGE
ELEVATION 55.28
ELEVATION 55.28

BELOW BRIDGE
ELEVATION 55.28
ELEVATION 55.28

END BRIDGE
ELEVATION 55.28
ELEVATION 55.28



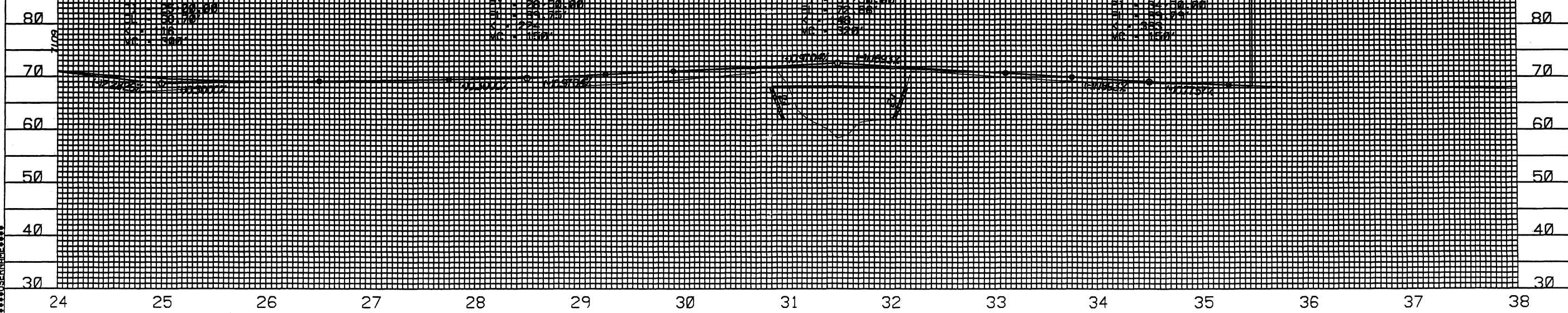
STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 287 CFS
DESIGN FLOW VELOCITY = 1.0 M/S
DESIGN FLOW ELEVATION = 55.28
DESIGN FLOW AREA = 287 SQ FT
DESIGN FLOW VELOCITY = 1.0 M/S
DESIGN FLOW ELEVATION = 55.28
DESIGN FLOW AREA = 287 SQ FT

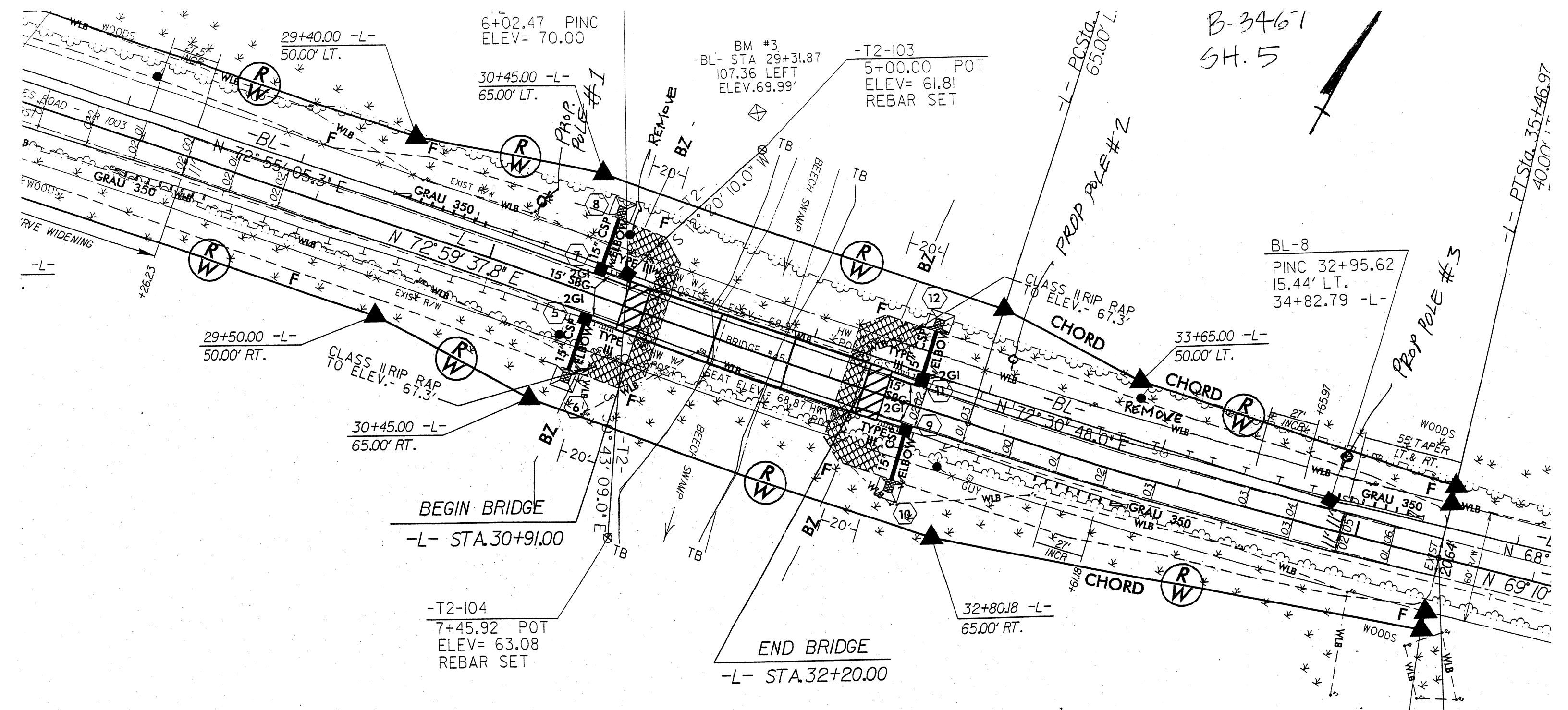
BELOW BRIDGE
ELEVATION 55.28
ELEVATION 55.28

END BRIDGE
ELEVATION 55.28
ELEVATION 55.28

END BRIDGE
ELEVATION 55.28
ELEVATION 55.28



SYSTEMS
ENGINEERING
CORPORATION



B-3467
SH. 5

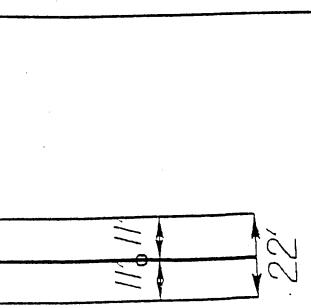
BL-8
PINC 32+95.62
15.44' LT.
34+82.79 -L-

NOTE: USE 6" SCUPPERS ON 12' CENTERS FROM STA. 30+91 TO STA. 31+03 AND STA. 32+08 TO 32+20 LT. AND RT.

UTILITY:
HALIFAX ELECTRIC
MEMBERSHIP CORP.
208 W. WHITFIELD ST.
ENFIELD NL 27823-0667

CONTACT:
MR. SONNY HANEY
V.P. OPERATIONS
(252) 445-5111

G SIGHT DISTANCE REQUIRED

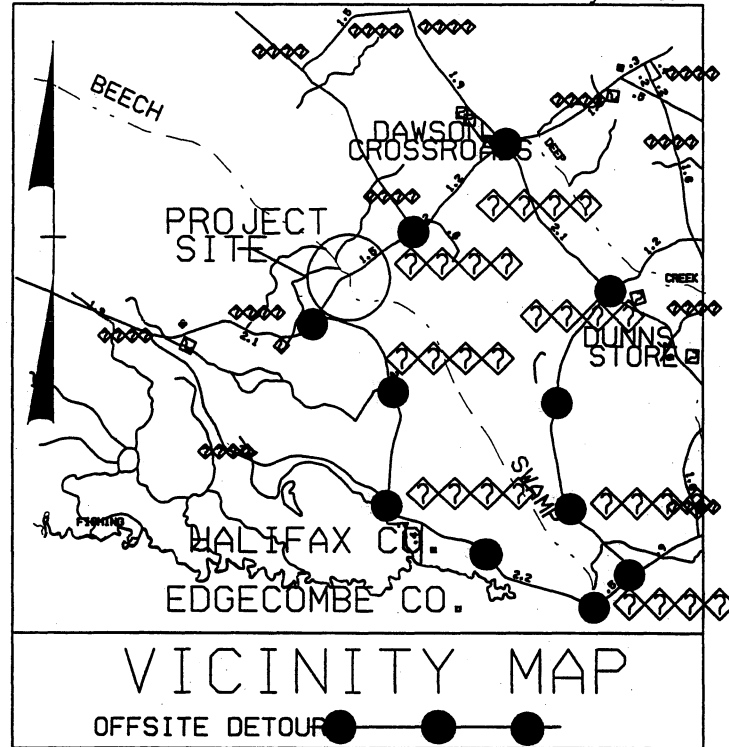


END CONST
-L- STA.3

09/08/99

CONTRACT TIP PROJECT B-3467

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



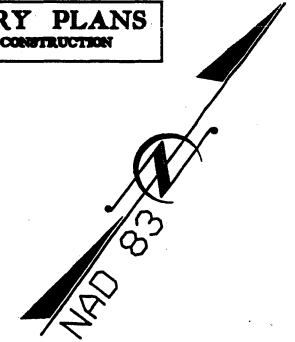
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
HALIFAX COUNTY

LOCATION: BRIDGE NOS. 40 AND 45 OVER BEECH SWAMP
ON SR 1003 (13 BRIDGES ROAD)

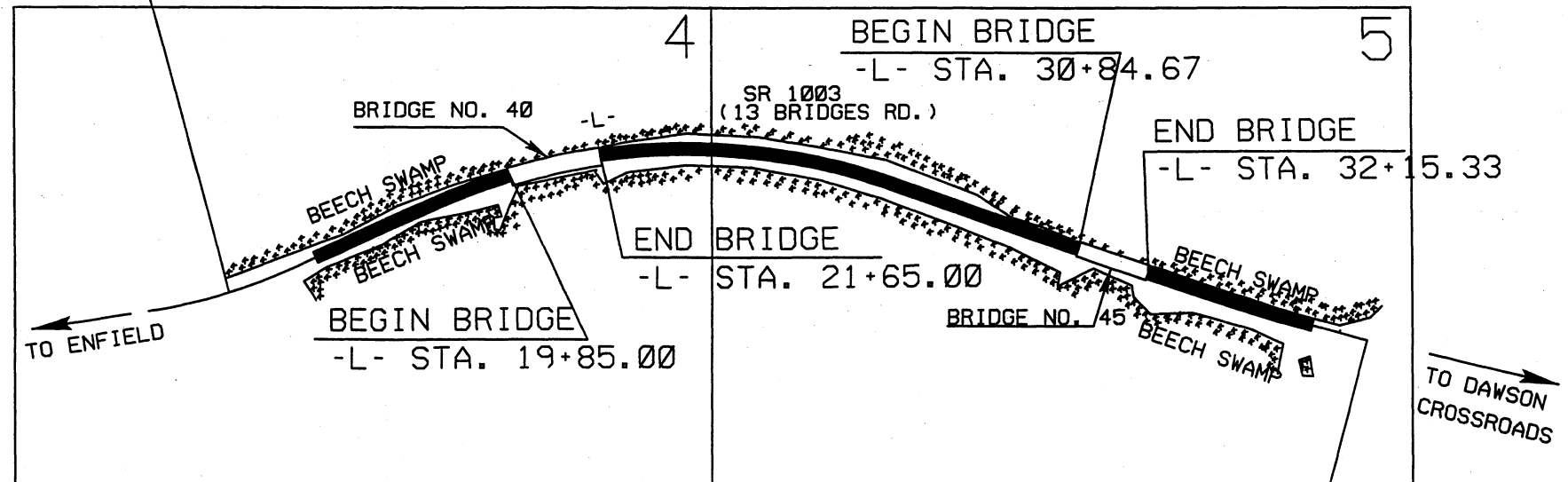
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3467	1	
STATE FUNDING	F.A. FUNDING	DESCRIPTION	
33086.1.1	BRSTP-1003(23)	PE	
33086.2.1	BRSTP-1003(23)	PAV & UTILITIES	
33086.3.1	BRSTP-1003(23)	CONST	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



STA. 13+52.58 -L- BEGIN TIP PROJECT B-3467

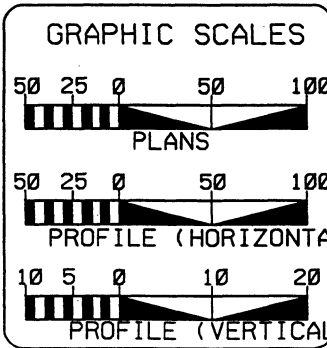


STA 36+54.28 -L- END TIP PROJECT B-3467

★DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED

NOTES:

1. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III



DESIGN DATA

ADT 2004+	956
ADT 2024+	1474
DHV	10 %
D	60 %
T	3 % *
V	55 MPH *
* TTST 1% DUAL 2%	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3467	0.377 MI
LENGTH STRUCTURE TIP PROJECT B-3467	0.059 MI
TOTAL LENGTH OF TIP PROJECT B-3467	0.436 MI

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DR., NC, 27610

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2003	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE: SEPTEMBER 21, 2004	ANTHONY C. WEST PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

DATE _____

\$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

*S.U.E - SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

EDGE OF PAVEMENT	----
CURB	----
PROP. SLOPE STAKES CUT	----- ^c
PROP. SLOPE STAKES FILL	----- ^f
PROP. WOVEN WIRE FENCE	○-○-○-○
PROP. CHAIN LINK FENCE	□-□-□-□
PROP. BARBED WIRE FENCE	◇-◇-◇-◇
PROP. WHEELCHAIR RAMP	WCR
CURB CUT FOR FUTURE WHEELCHAIR RAMP	WCR
EXIST. GUARDRAIL	-----
PROP. GUARDRAIL	-----
EQUALITY SYMBOL	⊙
PAVEMENT REMOVAL	XXXXXX

RIGHT OF WAY

BASELINE CONTROL POINT	◆
EXISTING RIGHT OF WAY MARKER	H
EXIST. RIGHT OF WAY LINE W/MARKER	-----
PROP. RIGHT OF WAY LINE WITH PROPOSED R/W MARKER (IRON PIN & CAP)	-----▲-----
PROP. RIGHT OF WAY LINE WITH PROPOSED (CONCRETE OR GRANITE) R/W MARKER	-----●-----
EXIST. CONTROL OF ACCESS LINE	-----
PROP. CONTROL OF ACCESS LINE	-----
EXIST. EASEMENT LINE	-----
PROP. TEMP. CONSTRUCTION EASEMENT LINE	-----
PROP. TEMP. DRAINAGE EASEMENT LINE	-----
PROP. PERM. DRAINAGE EASEMENT LINE	-----

HYDROLOGY

STREAM OR BODY OF WATER	-----
RIVER BASIN BUFFER	----- ^{RBB}
FLOW ARROW	----->
DISAPPEARING STREAM	----->
SPRING	W
SWAMP MARSH	W
SHORELINE	-----
FALLS, RAPIDS	-----
PROP LATERAL, TAIL, HEAD DITCHES	-----

STRUCTURES

MAJOR BRIDGE, TUNNEL, OR BOX CULVERT	CONC
BRIDGE WING WALL, HEAD WALL AND END WALL	CONC WW

MINOR HEAD & END WALL	-----
PIPE CULVERT	=====
FOOTBRIDGE	-----
DRAINAGE BOXES	□
PAVED DITCH GUTTER	-----

UTILITIES

EXIST. POLE	O
EXIST. POWER POLE	o
PROP. POWER POLE	o
EXIST. TELEPHONE POLE	Q
PROP. TELEPHONE POLE	o
EXIST. JOINT USE POLE	R
PROP. JOINT USE POLE	o
TELEPHONE PEDESTAL	□
U/G TELEPHONE CABLE HAND HOLD	□
CABLE TV PEDESTAL	□
U/G TV CABLE HAND HOLD	□
U/G POWER CABLE HAND HOLD	□
HYDRANT	H
SATELLITE DISH	∇
EXIST. WATER VALVE	⊕
SEWER CLEAN OUT	⊕
POWER MANHOLE	⊕
TELEPHONE BOOTH	E
CELLULAR TELEPHONE TOWER	⊕
WATER MANHOLE	⊕
LIGHT POLE	⊕
H-FRAME POLE	⊕
POWER LINE TOWER	T
POLE WITH BASE	⊕
GAS VALVE	◇
GAS METER	◇
TELEPHONE MANHOLE	⊕
POWER TRANSFORMER	⊕
SANITARY SEWER MANHOLE	⊕
STORM SEWER MANHOLE	⊕
TANK; WATER, GAS, OIL	⊕
WATER TANK WITH LEGS	⊕
TRAFFIC SIGNAL JUNCTION BOX	⊕
FIBER OPTIC SPLICE BOX	⊕
TELEVISION OR RADIO TOWER	⊕
UTILITY POWER LINE CONNECTS TO TRAFFIC SIGNAL LINES CUT INTO THE PAVEMENT	⊕

RECORDED WATER LINE	-----
DESIGNATED WATER LINE (S.U.E. *)	-----
SANITARY SEWER	-----
RECORDED SANITARY SEWER FORCE MAIN	-----
DESIGNATED SANITARY SEWER FORCE MAIN (S.U.E. *)	-----
RECORDED GAS LINE	-----
DESIGNATED GAS LINE (S.U.E. *)	-----
STORM SEWER	-----
RECORDED POWER LINE	-----
DESIGNATED POWER LINE (S.U.E. *)	-----
RECORDED TELEPHONE CABLE	-----
DESIGNATED TELEPHONE CABLE (S.U.E. *)	-----
RECORDED U/G TELEPHONE CONDUIT	-----
DESIGNATED U/G TELEPHONE CONDUIT (S.U.E. *)	-----
UNKNOWN UTILITY (S.U.E. *)	-----
RECORDED TELEVISION CABLE	-----
DESIGNATED TELEVISION CABLE (S.U.E. *)	-----
RECORDED FIBER OPTICS CABLE	-----
DESIGNATED FIBER OPTICS CABLE (S.U.E. *)	-----
EXIST. WATER METER	⊕
U/G TEST HOLE (S.U.E. *)	⊕
ABANDONED ACCORDING TO U/G RECORD	⊕
END OF INFORMATION	E.O.I.

BOUNDARIES & PROPERTIES

STATE LINE	-----
COUNTY LINE	-----
TOWNSHIP LINE	-----
CITY LINE	-----
RESERVATION LINE	-----
PROPERTY LINE	-----
PROPERTY LINE SYMBOL	T
EXIST. IRON PIN	⊕
PROPERTY CORNER	⊕
PROPERTY MONUMENT	⊕
PROPERTY NUMBER	123
PARCEL NUMBER	6
FENCE LINE	-----
EXISTING WETLAND BOUNDARIES	-----
HIGH QUALITY WETLAND BOUNDARIES	HQ WLB
MEDIUM QUALITY WETLAND BOUNDARIES	MQ WLB
LOW QUALITY WETLAND BOUNDARIES	LQ WLB
PROPOSED WETLAND BOUNDARIES	-----
EXISTING ENDANGERED ANIMAL BOUNDARIES	-----
EXISTING ENDANGERED PLANT BOUNDARIES	-----

BUILDINGS & OTHER CULTURE

BUILDINGS	-----
FOUNDATIONS	-----
AREA OUTLINE	-----
GATE	-----
GAS PUMP VENT OR U/G TANK CAP	-----
CHURCH	-----
SCHOOL	-----
PARK	-----
CEMETERY	-----
DAM	-----
SIGN	S
WELL	W
SMALL MINE	M
SWIMMING POOL	-----

TOPOGRAPHY

LOOSE SURFACE	-----
HARD SURFACE	-----
CHANGE IN ROAD SURFACE	-----
CURB	-----
RIGHT OF WAY SYMBOL	R/W
GUARD POST	⊕
PAVED WALK	-----
BRIDGE	-----
BOX CULVERT OR TUNNEL	-----
FERRY	-----
CULVERT	-----
FOOTBRIDGE	-----
TRAIL, FOOTPATH	-----
LIGHT HOUSE	L

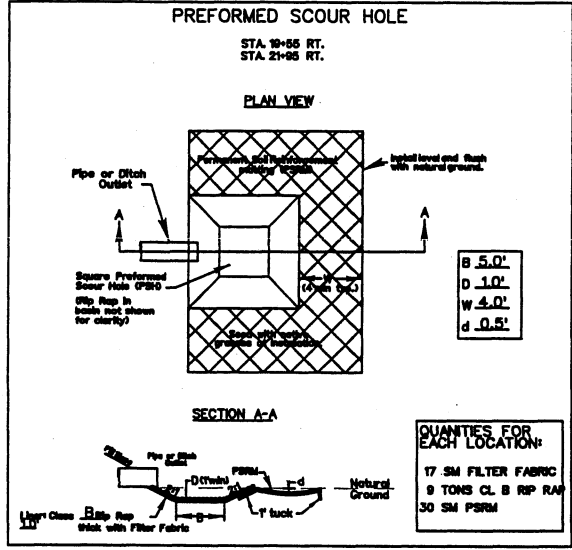
VEGETATION

SINGLE TREE	X
SINGLE SHRUB	Y
HEDGE	UUU
WOODS LINE	UUU
ORCHARD	XXXXXX
VINEYARD	VINEYARD

RAILROADS

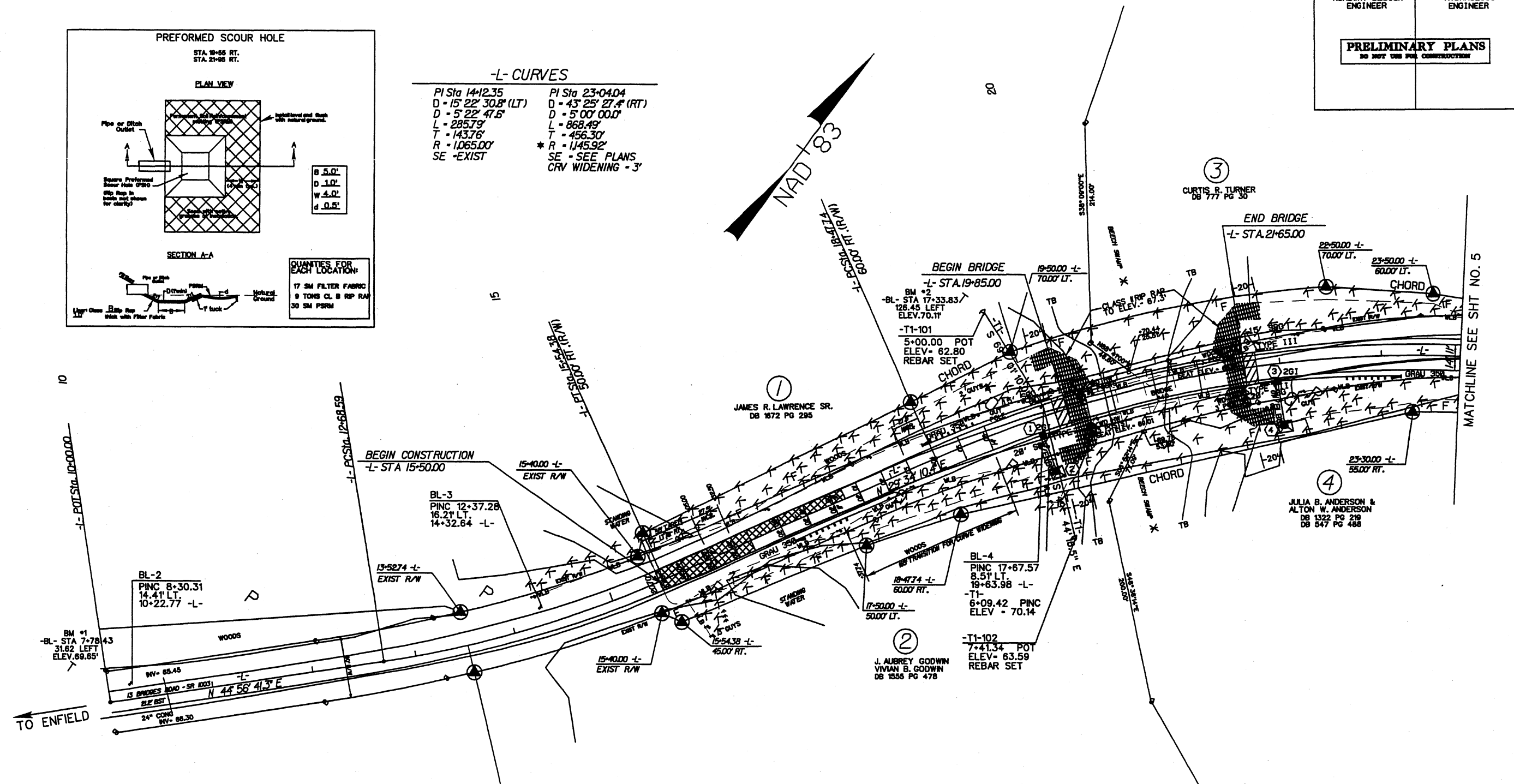
STANDARD GAUGE	-----
RR SIGNAL MILEPOST	-----
SWITCH	-----

5/28/99
SYSTEMS ENGINEERING
DESIGN
DRAWING



-L- CURVES

PI Sta 14+12.35	PI Sta 23+04.04
D = 15' 22" 30.8' (LT)	D = 43' 25" 27.4' (RT)
D = 5' 22" 47.6'	D = 5' 00" 00.0'
L = 285.79'	L = 868.49'
T = 143.76'	T = 456.30'
R = 1,065.00'	* R = 1,145.92'
SE - EXIST	SE - SEE PLANS
	CRV WIDENING - 3'



BEGIN TIP PROJECT B-3467
-L- STA. 13+52.58
EXIST R/W

DATUM DESCRIPTION

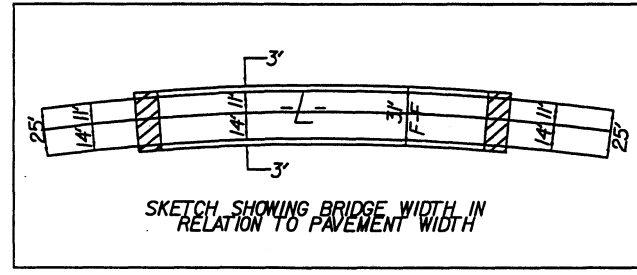
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4134-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 874849.5089(4) EASTING: 2446561.6209(4) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999427 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4134-1" TO -L- STATION 10+00.00 IS S 87 45 39.28 V 22256.6161 FT. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT -L- STA 16+25 TO 20+00 (RT) AND -L- STA 17+25 TO 20+00 (LT) FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY - 1260.77 SY

- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



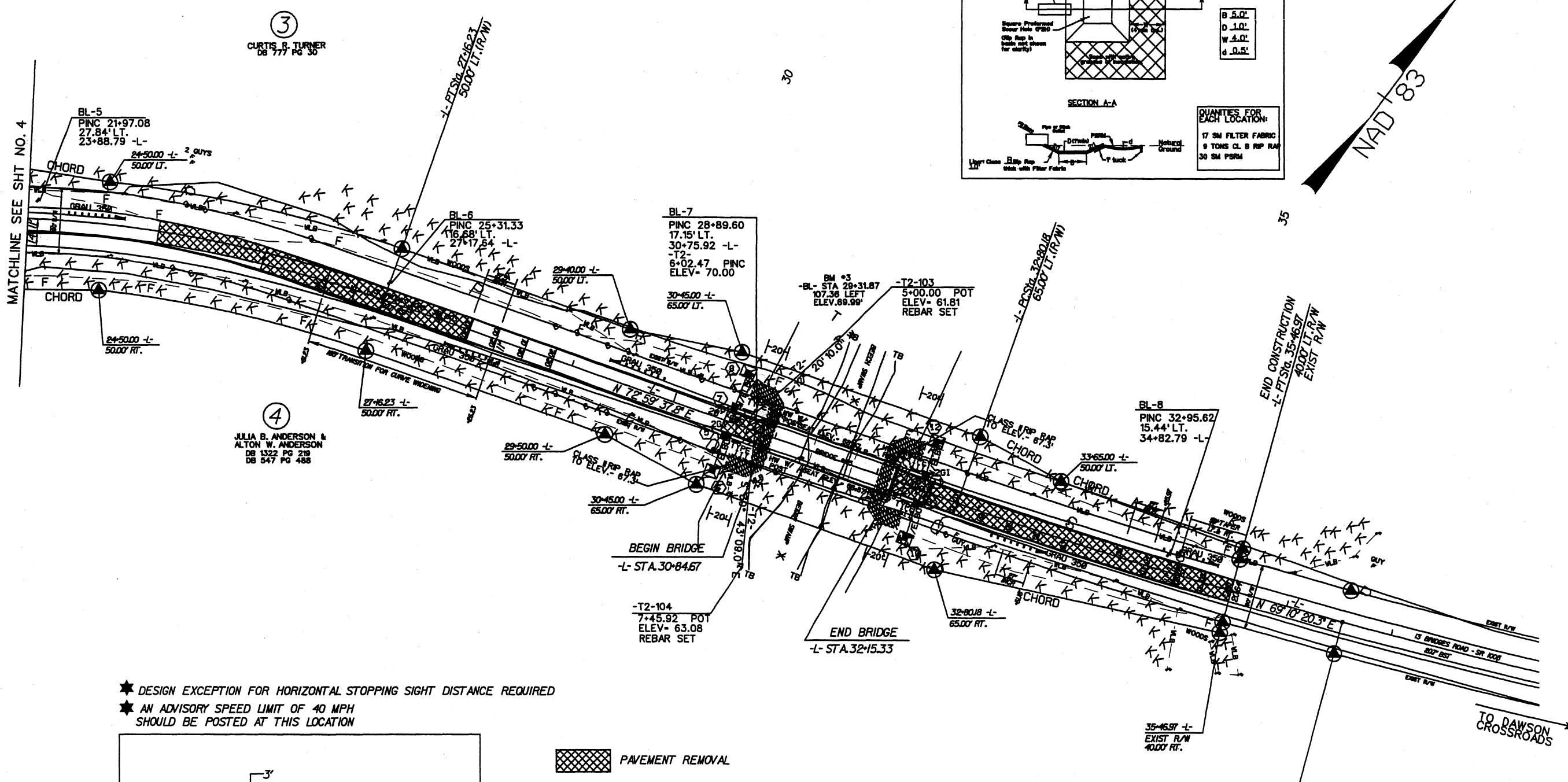
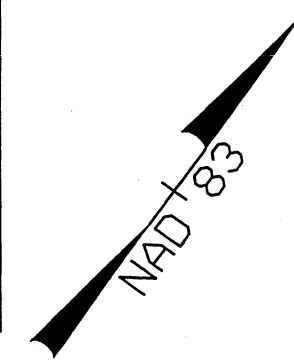
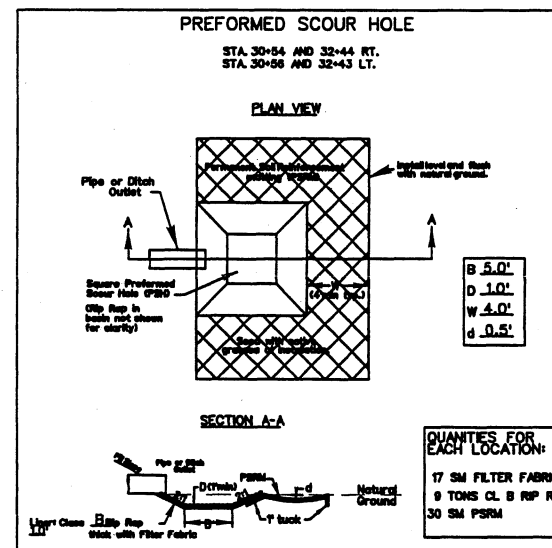
NOTE: TB = TOP OF BANK
BZ = BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE

PROJECT REFERENCE NO.		SHEET NO.	
B-3467		5	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
CURTIS R. TURNER DB 777 PG 30		JULIA B. ANDERSON & ALTON W. ANDERSON DB 1322 PG 219 DB 547 PG 488	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

-L- CURVES

PI Sta 23+04.04	PI Sta 34+13.62	PI Sta 38+39.13
D = 43° 25' 27.4" (RT)	D = 3° 49' 17.5" (LT)	D = 4° 42' 16.4" (LT)
D = 5' 00' 00.0"	D = 1' 25' 56.6"	D = 1' 16' 23.7"
L = 868.49'	L = 266.79'	L = 369.50'
T = 456.30'	T = 133.45'	T = 184.85'
* R = 1445.92'	R = 4000.00'	R = 4500.00'
SE = SEE PLANS	SE = SEE PLANS	SE = EXIST
CRV WIDENING = 3'		



MATCHLINE SEE SHT NO. 4

BL-5
PINC 21+97.08
27.84' LT.
23+88.79 -L-

3
CURTIS R. TURNER
DB 777 PG 30

4
JULIA B. ANDERSON &
ALTON W. ANDERSON
DB 1322 PG 219
DB 547 PG 488

BL-7
PINC 28+89.60
17.15' LT.
30+75.92 -L-

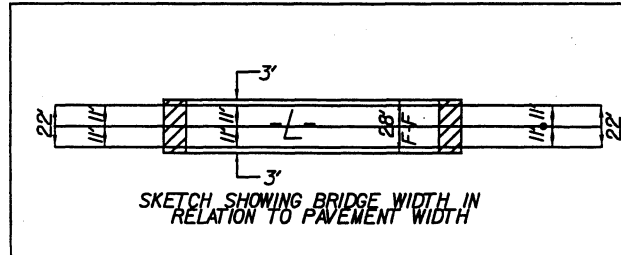
BL-8
PINC 32+95.62
15.44' LT.
34+82.79 -L-

BEGIN BRIDGE
-L- STA. 30+84.67

END BRIDGE
-L- STA. 32+15.33

END CONSTRUCTION
-L- PT. STA. 35+46.97
40.00' LT. R/W
EXIST R/W

- ★ DESIGN EXCEPTION FOR HORIZONTAL STOPPING SIGHT DISTANCE REQUIRED
- ★ AN ADVISORY SPEED LIMIT OF 40 MPH SHOULD BE POSTED AT THIS LOCATION



PAVEMENT REMOVAL

NOTE: USE FABRIC FOR SOIL STABILIZATION IN LIEU OF UNDERCUT AT
-L- STA 2+60 TO 3+00 (RT), 2+60 TO 23+75 (LT), 26+50 TO 3+00 (LT),
32+10 TO 35+47 (RT) AND 32+10 TO 35+47 (LT)
FROM EXISTING TOE OF SLOPE TO PROPOSED TOE OF SLOPE

QUANTITY - 367171 SY

END TIP PROJECT B-3467
-L- PCSTA. 36+54.28
EXIST R/W LT. & RT.

NOTE: TB - TOP OF BANK
BZ - BUFFER ZONE

SEE SHEET 6 FOR -L- PROFILE

5/28/93

PROJECT REFERENCE NO. B-3467	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 412 CFS
DESIGN FREQUENCY = 100 YEARS
DESIGN HW ELEVATION = 25.5 FT
BASE DESIGN = 474 CFS
BASE FREQUENCY = 100 YEARS
WAY IN VARIATION = 1.1
OV. HEIGHTING IN SCOUR PROTECTION = 1.0
OV. HEIGHTING IN NORMAL FLOW = 1.0
OV. HEIGHTING IN VELOCITY = 1.1

BEGIN BRIDGE
STA 15+00.00
EL. 76.10

PI = 15+00.00
EI = 76.10
V = 1.50

BEGIN BRIDGE
STA 19+25.00
EL. 76.10

PI = 19+25.00
EI = 76.10
V = 1.50

END BRIDGE
STA 20+00.00
EL. 76.10

DESIGN ELEVATION FOR PROTECTION AT
STA 19+25.00 IS 76.10 FT
TOTAL DESIGN VELOCITY

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE = 257 CFS
DESIGN FREQUENCY = 100 YEARS
DESIGN HW ELEVATION = 25.5 FT
BASE DESIGN = 317 CFS
BASE FREQUENCY = 100 YEARS
WAY IN VARIATION = 1.1
OV. HEIGHTING IN SCOUR PROTECTION = 1.0
OV. HEIGHTING IN NORMAL FLOW = 1.0
OV. HEIGHTING IN VELOCITY = 1.1

BEGIN BRIDGE
STA 30+00.00
EL. 76.10

PI = 30+00.00
EI = 76.10
V = 1.50

END BRIDGE
STA 32+15.00
EL. 76.10

PI = 32+15.00
EI = 76.10
V = 1.50

END BRIDGE
STA 35+45.00
EL. 76.10

SYSTEM TIME 11:55:11
DATE 5/28/93
USER NAME