



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

**MICHAEL F. EASLEY**  
GOVERNOR

**LYNDO TIPPETT**  
SECRETARY

March 28, 2003

**Addendum No. 1**

RE: Contract ID: C200693  
Work Order No. 8.T351212  
F. A. No. IMF-85-4 (77) 174  
Durham County (I-306C)  
I-85 From East of SR-1401  
(Cole Mill Road) to West of  
Broad Street.

**April 15 2003 Letting**

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on the above mentioned project.

The following revisions have been made to the plans:

On sheet nos. 2-B and 2-C, typical section no. 2 and no. 3 have been revised to clarify the area under the median planter. Please void sheet no. 2-B and 2-C in your plans and staple the revised sheet nos. 2-B and 2-C thereto.

On sheet no. 2-N, the ending station for use of typical section no. 24 has been revised. Please void sheet no. 2-N in your plans and staple the revised sheet no. 2-N thereto.

On sheet no. 2-AB, section view 'A-A' for the concrete planter has been revised. Please void sheet no. 2-AB in your plans and staple the revised sheet no. 2-AB thereto.

On sheet no. EC-24, details have been added for "Streambank Reforestation". Please void sheet no. EC-24 in your plans and staple the revised sheet no. EC-24 thereto.

New sheet no. RF-1, "Streambank Reforestation Detail Sheet" is being added. Please staple new sheet no. RF-1 after sheet no. EC-28 in your plans.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACTS & PROPOSALS  
1591 MAIL SERVICE CENTER  
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4124  
FAX: 919-250-4127

WEBSITE: [WWW.DOH.DOT.STATE.NC.US](http://WWW.DOH.DOT.STATE.NC.US)

**LOCATION:**  
CENTURY CENTER COMPLEX  
BUILDING B - ENTRANCE B15  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC

## **I-306C**

The following revisions have been made to the proposal form:

On Page No. 23, the Project Special Provision entitled “Delay In Right of Entry” has been revised. Please void Page No. 23 in your proposal and staple the revised Page No. 23 thereto.

On Page No. 66, a paragraph has been added to the project special provision entitled “Temporary Detours”. Please void Page no. 66 in your proposal form and staple the revised Page No. 66 thereto.

On Page No. 284, Paragraph “C. Public Service Natural Gas” of the “Utility Conflict” provisions has been revised. Please void Page No. 284 in your proposal and staple the revised Page No. 284 thereto.

New Page Nos. 286-A thru 286-D are being added to include the following new sections to the Erosion Control Project Special Provisions: “Stream Channel Relocation Limitations”, “Streambank Reforestation”, “Specialized Seeding under Guiderail and Guardrail (Centipede)” and “Crimping Straw Mulch”. Please staple new Page Nos. 286-A thru 286-D after Page No. 286 in your proposal form.

On Page Nos. 444 and 445, section “J. 60-Day Observation Period” of the Intelligent Transportation Systems Project Special Provisions has been revised to remove the requirement that “ the observation period be completed prior to the final acceptance of the project”. Please void Page nos. 444 and 445 in your proposal and staple the revised Page nos. 444 and 445 thereto.

On Page No. 568, the first paragraph of the Project Special Provision entitled “Permits” has been revised. Please void Page no. 568 in your proposal and staple the revised Page No. 568 thereto.

New Page Nos. 569 thru 617 is being added to include the 404 and 401 permits for the project. Please staple new Page Nos. 569 thru 617 after Page no. 568 in your proposal.

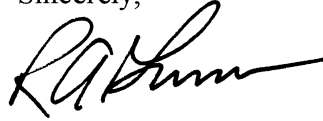
The Table of Contents (pg.2) has been revised to reflect the above changes. Please void the Table of Contents (pg.2) in your proposal and staple the revised page thereto.

On Page No. 35 of the item sheets, two new pay items are being added. By copy of this addendum the following pay items are hereby added: “616-6126000000-M-SP Streambank Reforestation (Quantity=0.04HA)” and “617-6135000000-M-SP Specialized Seeding Under Guiderail and Guardrail (Centipede) (Quantity=0.51HA): The Contractor’s bid price must include these new pay items. The contract will be prepared accordingly.

**I-306C**

The Expedite file has been updated to reflect this revision. Please download the Expedite addendum file and follow the instructions for applying the addendum. Bid Express will not accept your bid unless all addendum's have been applied.

Sincerely,



R. A. Garris, P.E.  
Contract Officer

RAG/jag/pa  
(Attachments)

cc: Mr. J. D. Goins, P.E.  
Mr. S. D. DeWitt, P.E.  
Mr. J. G. Nance, P.E.  
Ms. D. M. Barbour, P.E.  
Mr. J. V. Barbour, P.E.  
Mr. Don Voelker, P.E. (FHWA)  
Mr. Mark Staley (2)  
Mr. Aydren Flowers  
Mr. Ron Davenport, Jr., P.E.  
Mr. J. A. Bennett, P.E.  
Ms. Kim Canady  
Ms. Yang Steelman  
Project File (2)

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**PROPOSAL FORM ITEM SHEETS, ETC.**

Item Sheets  
Award Limits  
Signature

**SPECIALTY ITEMS:**

7-1-95

Items listed below will be the specialty items for this contract (See Article 108-6 of the Standard Specifications).

SP1G37

<u>Line Code No.</u>	<u>Description</u>
135 thru 153	Guardrail Items
154 thru 159	Fencing Items
164 thru 227	Signing Items
255 thru 269	Long-Life Pavement Markings
283 thru 284	Pavement Markers
291 thru 325	Lighting Items
326 thru 417	Utility Construction Items
418 thru 443	Erosion Control Items
444 thru 456	Planting Items
457 thru 560	Signal Items
583 thru 592	Drilled Pier Items

**DELAY IN RIGHT OF ENTRY:**

7-1-95

The Contractor will not be allowed right of entry to the parcels listed below before July 15, 2003 unless otherwise permitted by the Engineer.

SP1G22

<u>Parcel No.</u>	<u>Property Owner</u>
7	Holmes Oil Company
15	Jeffy Dickens/FBJ Investors
24	City of Durham
47	Jack T. Dorsett
58	Shoney's, Inc.
61	R & M Investments
64	Paul Addison
70	CCB, Trustee, Durham Found.
71	BFP Ltd. Partnership
75	Carolina Corasdaile, LLC
80	June R. Mayse, et al
82	Value Storage
87	Charles W. Ripley
91	St. Lukes Episcopal Church
14	Red Roof Inn, Inc.
18	Erwin Distributors Corp.
74	Winn Limited Partnership
78	Gerald Jones
79	Curtis W. Vaughan

**FUEL PRICE ADJUSTMENT:**

2-19-02

Fuel Price Adjustment for items of work listed below will be made in accordance with Section 109-8 of the Standard Specifications.

The base index price for DIESEL #2 FUEL is \$.2501 per liter.

way, as directed by the Engineer, for removal by State Forces. Pipe culverts removed from the detours remain the property of the Contractor. Remove pipe culverts from the project when they are no longer needed. Place pavement and earth material removed from the detour in embankments or dispose of in waste areas furnished by the Contractor. Aggregate base course and earth material that is removed will be measured and will be paid for at the contract unit price per cubic yard (cubic meter) for "Unclassified Excavation". Pavement that is removed will be measured and will be paid for at the contract unit price per square yard (square meter) for "Removal of Existing Pavement". Pipe culverts that are removed will be measured and will be paid for at the contract unit price per linear foot (meter) for "Pipe Removal". Such prices and payments will be full compensation for the work of removing, salvaging, and stockpiling aggregate base course; placing and removing pipe culverts; and for placing earth material and pavement in embankments or disposing of earth material and pavement in waste areas.

SP2R30

The above provisions will **not** be applicable to the design and construct off-site detour route improvements required elsewhere in this proposal form.

**SHALLOW UNDERCUT:**

**2-19-02**

Perform undercut excavation and place a combination of fabric for soil stabilization and Class IV Subgrade Stabilization at locations as directed by the Engineer. Work includes performing undercut excavation, disposing of unsuitable material, furnishing and placing fabric for soil stabilization; and furnishing, placing and compacting Class IV Subgrade Stabilization.

**MATERIALS**

Fabric for Soil Stabilization.....Section 270

Class IV Subgrade Stabilization.....Section 1016-3, Class IV; or  
Material meeting gradation  
requirements of Table 520-1,  
Column C

**CONSTRUCTION METHODS**

Perform undercut excavation in accordance with Section 225.

Place fabric for soil stabilization in accordance with Section 270.

Place Class IV Subgrade Stabilization by back dumping material on previously placed fabric. Compact material to 95% of AASHTO T-99, Method "D" density or compact material to the highest density that can be reasonably obtained.

**METHOD OF MEASUREMENT**

Undercut Excavation will be measured in accordance with Section 225.

Fabric for Soil Stabilization will be measured in accordance with Article 270-4.

Class IV Subgrade Stabilization, as accepted in place, will be measured by the ton (metric ton), in accordance with Section 106-7.

02/19/03

284

Revised 3-28-03

PROJECT: I-0306C

COUNTY: Durham

PROJECT SPECIAL PROVISIONS

Utility

UTILITY CONFLICTS:

General:

The following utility companies have facilities that will be in conflict with the construction of this project:

- A. Duke Energy Power
- B. Verizon
- C. Public Service Natural Gas

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105.8 of the Standard Specifications.

Utilities Requiring Adjustment:

- A. Duke Energy Power  
See Utility By Others Plans for Details
- B. Verizon  
See Utility By Others Plans for Details
- C. Public Service Natural Gas: PSNC shall be given Two (2) weeks notice and One (1) week to complete the work for each gas main that will need to be adjusted due to drainage conflicts.  
See Utility By Others Plans for Details

CRG-A

**Stream Channel Relocation Limitations:**

The following sequence of construction must be followed in the areas designated on the plans as stream relocation. Failure on the part of the Contractor to follow this sequence, and complete each step prior to proceeding in this area as specified, will be just cause for the Engineer to direct the suspension of work in accordance with Section 108-7 of the Standard Specifications.

1. Clear, but do not grub area within the Environmentally Sensitive Area on the existing stream to be relocated.
2. Construct and stabilize, with vegetation or erosion control materials sufficient to restrain erosion, the proposed stream channel relocation as shown on the plans.
3. Divert water into newly constructed channel only after it has been stabilized and approved.
4. Begin grubbing and/or grading within Environmentally Sensitive Area of existing stream.

The above requirements apply to the stream channels being constructed at the following stations:

Approx. Sta. 1+270 –US\_NBD- Lt.

**Streambank Reforestation:**

Streambank reforestation will be planted in areas designated on the plans and as directed by the Engineer. See the streambank reforestation detail sheet.

Seedlings shall be planted as soon as practical following permanent seeding and mulching. Type I seedlings shall be planted along both streambanks. Type II seedlings shall be planted in a 26 ft. (8 meters) wide swath from top of bank along both sides of stream.

Seasonal limitations: Seedlings shall be planted from November 15 through March 15.

Root dip: the roots of reforestation seedlings shall be coated with a slurry of water, and either a fine clay ("kaolin") or a superabsorbent that is made to be used as a bare root dip. The type, mixture ratio, method of application, and the time of application shall be submitted to the Engineer for approval.

With the approval of the Engineer, seedlings may be coated before delivery to the job or at the time of planting, but at no time shall the roots of the seedlings be allowed to dry out. The roots shall be moistened immediately prior to planting.



Measurement:

288-3

The quantity of streambank reforestation to be paid for will be the actual number of acres (hectares) of land, measured along of the surface of ground, which has been acceptably planted with seedlings in accordance with these specifications.

Payment:

The quantity of streambank reforestation will be paid for at the contract unit price per acre (hectare) for "Streambank Reforestation".

Payment will be made under:

Streambank Reforestation.....ACR (HA)

**Specialized Seeding Under Guiderail and Guardrail (Centipede):**

General:

Areas under guiderail and guardrail sections shall be seeded in accordance with these provisions and as directed by the Engineer. Perform the work covered by this provision including but not limited to litter and debris removal, mowing, disposal of weeds and other unacceptable growth, grading, soil preparation and amendment, surface smoothing, seed and herbicide applications, matting installation and all required materials necessary to complete work.

Materials:

Only approved centipede grass seed that complies with Section 1060 of the Standard Specifications shall be used.

Soil Preparation:

Remove litter and other debris. Mow and satisfactorily dispose of weeds or other unacceptable growth on the areas to be seeded.

Prior to seeding, all eroded, uneven and rough areas shall be contour graded and/or filled with soil as directed by the Engineer. The soil shall be scarified or otherwise loosened to a depth of not less than 5 inches (130 mm) with a minimum width of 48 inches (1145 mm) and a maximum width of 52 inches (1320 mm). Clods shall be broken and the top 2 to 3 inches (52 to 78 mm) of soil shall be worked into an acceptable soil bed by the use of soil pulverizers, drags, or harrows.

Soil amendments shall be as follows:

Limestone: Limestone shall be applied at a rate of 2000 pounds (2250 Kg/Hectare) per acre.

Fertilizer: Fertilizer shall be 10-20-20 analysis and applied at a rate of 300 pounds (330 Kg/Hectare) per acre.

Application of limestone and fertilizer will be considered incidental to the work of "Specialized Seeding Under Guiderail/Guardrail (Centipede)" and no direct payment will be made for such.

After soil preparation, lime and fertilizer shall be uniformly distributed by mechanical means using a 48 inch (1065 mm) drop type spreader (or other approved equipment) and thoroughly mixed with the top five inches (130 mm) of the soil by discing, harrowing, or other approved methods.

The area shall then be harrowed, dragged, raked, or prepared by other approved methods which will give a lawn type finish. All trash, debris and stones larger than 1-1/2 inch (38 mm) in diameter or other obstructions shall also be removed.

Application:

Centipede seed shall be uniformly distributed at a rate of 20 pounds per acre (28 kilograms per hectare) by mechanical means.

Immediately following the placement of seed, the area shall be cultipacked carefully and firmly by means acceptable to the Engineer to ensure a smooth surface.

Herbicide Treatment Under Guiderail and Guardrail:

Upon completion of seeding and rolling or tamping operations, a herbicidal treatment shall be made in accordance with these specifications. Herbicide applications will be made by or under the direct supervision of a licensed North Carolina Department of Agriculture and Consumer Services applicator. No direct payment will be made for additional herbicidal work if such work is due to carelessness or neglect on the part of the contractor.

Apply herbicide evenly over the soil surface with the properly calibrated equipment at the specified rate. Sprayers shall be equipped to provide continuous agitation of the spray mixture during application to ensure application of a uniform spray solution. The herbicide sprayer shall provide a uniform, low volume-low pressure application that does not drift nor produce runoff of product which damages vegetation outside of the 48-inch seeding area. The sprayer shall provide a total volume application rate of 10 to 30 gallons per acre.

The following herbicide shall be used:

<u>Product Name</u>	<u>Application Rate</u>
Drexel Atrazine 4L	1 quart per acre

285-D

Due to labeling restrictions, no substitutions shall be allowed for this product. Product label shall be provided to the Engineer for approval prior to beginning work.

**Matting:**

Immediately upon completion of seeding work and herbicidal application, 48 inch wide matting shall be installed over the seeded area in accordance with Section 1631 of the Standard Specifications.

**Basis of Payment:**

The quantity of "Specialized Seeding Under Guiderail and Guardrail (Centipede)" to be paid for will be the actual number of acres (hectares) of guiderail and guardrail sections, measured along the surface of the ground, over which acceptable seeding has been performed. The quantity of seeding will be paid for at the contract unit price per acre (hectare) for "Specialized Seeding Under Guiderail and Guardrail (Centipede)".

No payment shall be made for "Specialized Seeding Under Guiderail and Guardrail (Centipede)" in which the work has not been satisfactorily completed. Complete work includes but is not limited to soil preparation, surface smoothing, seeding, herbicidal work, and matting.

**Crimping Straw Mulch:**

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet (2 meters) of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8 inches (200 mm).

## I-306C

### Intelligent Transportation Systems

- All local area network software and hardware operate properly for all equipment (new, modified, or existing)
- Complete control and viewing of each CCTV location from the TRTMC using the existing CCTV software.
- That all features of the existing CCTV central software operate properly with all field equipment (existing, modified, or newly installed)
- Verification of the reception of video at the signal to noise ratio called for in the VOTR-D specification contained in Section 6 of these Project Special Provisions.
- Complete upload, download, and parameter adjustment of RVD units from the central freeway congestion monitoring software via the fiber optic communications network to the detector station controller software
- Standard hardware tests with regards to diagnostic routines

The testing shall be executed on the basis of the approved test plan only. The Engineer or his representative shall witness all tests.

If system performance tests fail because of any component(s) in the system, the particular component(s) shall be corrected or substituted with new component(s) and the tests shall be repeated.

If a component has been modified as a result of the system performance test failure, a report shall be prepared by the Contractor and delivered to the Engineer prior to re-testing.

The Contractor shall be totally responsible for documenting the results of the test and furnishing the documented test results to the Engineer.

Submit to the Engineer for review a test plan for the system test. The test plan will be reviewed by the Engineer, who will either approve or indicate changes that are required for approval within forty (40) calendar days of receipt. Submit a revised test plan to the Engineer for review within forty (40) calendar days following receipt of the review of the initial plan. The review and re-submittal process described above will continue until a final test plan is approved by the Engineer. Multiple submittals of the test plan, if required, will be supplied at no additional cost. Testing will commence at a time mutually agreed by the Contractor and the Engineer.

### **J. 60-Day Observation Period**

Upon completion of all project work, the successful completion of the component tests and the System Test, and the correction of all deficiencies, including minor construction items, a 60-day Observation Period shall commence. This observation shall consist of a 60-day period of normal operations of the new field equipment in operation with the existing central equipment without any failure. The 60-day Observation Period shall be warranted by the payment and performance bond. The purpose of this period is to ensure that all components of the system function in accordance with the Plans and these Special Project Provisions over an extended length of time.

**I-306C**

**Intelligent Transportation Systems**

All training shall have been completed at least thirty (30) calendar days prior to the start of the 60-Day Observation Period.

Respond to system or component failures (or reported failures) that occur during the 60-day Observation Period within twenty-four (24) hours. Correct said failures within forty-eight (48) hours. Failures that affect any of the major system components defined below for more than forty-eight (48) hours shall suspend the timing of the 60-day Observation Period beginning at the time when the failure occurred. After the cause of such failures has been corrected, timing of the 60-day Observation Period shall resume. System or components failures that necessitate a redesign of any component and failures in any of the major system components exceeding a total of three (3) occurrences, shall terminate the 60-day Observation Period and shall cause the 60-day Observation Period to be restarted from zero when the redesigned components have been installed and/or the failures corrected. The major system components are:

- Fiber optic communications network
- CCTV field hardware
- RVD field hardware
- Central CCTV video equipment
- Regional ITS Graphical User Interface Software Database Update
- Detector Station Controller Software
- Central Freeway Congestion Monitoring Software

**15.3. METHOD OF MEASUREMENT**

There will be no direct payment for the work covered by this section.

Payment for this work will be covered in the applicable sections of these Project Special Provisions at the contract unit price, and will be full compensation for all work listed above.

**PROJECT SPECIAL PROVISIONS**  
**PERMITS**

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

**PERMIT**

**AUTHORITY GRANTING THE PERMIT**

Dredge and Fill and/or  
Work in Navigable Waters

U. S. Army Corps of Engineers

Water Quality

Division of Environmental Management, DEHNR  
State of North Carolina

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

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

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

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

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



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Revised 3-28-03 408

DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS

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

IN REPLY REFER TO

February 27, 2003

Regulatory Division

SUBJECT: Action ID 200220949, TIP No. I-306C

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 your written request of October 11, 2002, subsequently modified, and the resulting administrative record, enclosed are two copies of a Department of the Army permit to authorize the discharge of dredged and fill material into waters of the United States, for construction of Section C of improvements to Interstate 85 (T.I.P. No. I-306C), crossing Ellerbe Creek, and unnamed tributaries, from west of US 15-501, to west of Broad Street, in Durham, Durham County, North Carolina.

You should acknowledge that you accept the terms and conditions of the enclosed permit by signing and dating each copy in the spaces provided ("Permittee" on page 3). Your signature, as permittee, shows that, as consideration for the issuance of this permit, you voluntarily accept and agree to comply with all of the terms and conditions of this permit. All pages of both copies of the signed permit with drawings should then be returned to this office for final authorization. A self-addressed envelope is enclosed for your convenience.

After the permit is authorized in this office, the original copy will be returned to you; the duplicate copy will be permanently retained in this office. Should you have questions, contact Mr. Eric Alsmeyer of my Raleigh Field Office regulatory staff at telephone (919) 876-8441, extension 23.

Sincerely,

E. David Franklin  
Chief, NCDOT Team

Enclosures

## DEPARTMENT OF THE ARMY PERMIT

Permittee NC Department of TransportationPermit No. 200220949Issuing Office CESAW-RG-R

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:

Place fill material impacting a total of a total of 0.71 acre of waters of the United States, consisting of 1,790 linear feet of stream, for construction of Section C of improvements to I-85 (T.I.P. No. I-306C), including utility line relocations.

## Project Location:

Crossing Ellerbe Creek and its unnamed tributaries, from west of US 15-501 to west of Broad Street, in the City of Durham, Durham County, North Carolina.

## Permit Conditions:

## General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2006. 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).
  - (<sup>x</sup>) 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.

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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.

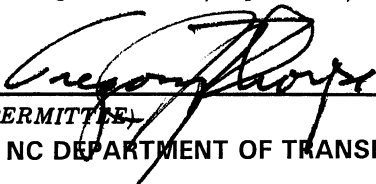
b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

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.

  
\_\_\_\_\_  
(PERMITTEE)  
NC DEPARTMENT OF TRANSPORTATION

13 Mar 03  
\_\_\_\_\_  
(DATE)

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

\_\_\_\_\_  
(DISTRICT ENGINEER)  
CHARLES R. ALEXANDER, JR. COLONEL

\_\_\_\_\_  
(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.

\_\_\_\_\_  
(TRANSFEREE)

\_\_\_\_\_  
(DATE)



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North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Alan W. Klimek, P.E. Director  
Division of Water Quality

Revised 3-28-03

2002-2-0949

February 5, 2003

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

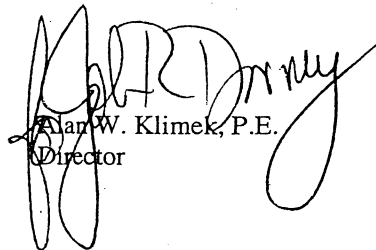
Re: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act,  
Proposed widening of I-85 from west of US 15-501 to west of Broad Street (TIP I-306C).  
WQC Project No. 021677  
Durham County

Dear Dr.Thorpe:

Attached hereto is a copy of Certification No. 3411 issued to The North Carolina Department of Transportation dated February 3, 2003.

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  
Corps of Engineers Raleigh Field Office  
DWQ Raleigh Regional Office  
Ron Ferrell, Wetlands Restoration Program  
Central Files  
File Copy





*Revised*  
*3-28-03*

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## APPROVAL OF 401 Water Quality Certification and ADDITIONAL CONDITIONS and Neuse River Buffer Rules

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, Section .0500, and 15 NCAC 2B .0233. This certification authorizes the NCDOT to place fill material in 1790 linear feet of streams in Durham County. In addition, the certification authorizes impacts to 195,133 square feet (4.48 acres) of protected Neuse River Riparian Buffers. The project shall be constructed pursuant to the application dated October 11, 2002 to construct the widening of Interstate 85 from west of 15-501 to west of Broad Street.

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River 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 or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation will 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.

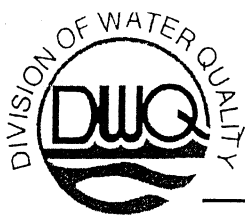
### Condition(s) of Certification:

1. 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" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall 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 (50 NTUs in all fresh water streams and rivers not designated as trout waters; 25 NTUs in all lakes and reservoirs, and all saltwater classes; and 10 NTUs in trout waters);
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. Live or fresh concrete shall not 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. Compensatory mitigation shall be done for 1602 linear feet of stream impacts. We understand that you have chosen to perform mitigation through an in lieu payment to the North Carolina Wetland Restoration Program (NCWRP), and that the WRP has agreed to implement mitigation for the project. In accordance with 15A NCAC 2R.0500, the contribution will satisfy our compensatory mitigation requirements under 15A NCAC 2H.0506(h). Until the Wetland Restoration Program receives and clears your check (made payable to DENR – Wetland Restoration Program), wetland or stream fill shall not occur. Mr. Ron Ferrell should be contacted at 919-733-5083 ext. 358 if you have any questions concerning the Wetland Restoration Program. The payment to NCWRP shall be sent within two months of issuance of the 401 Water Quality Certification.
- \*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. All stormwater runoff shall be directed to sheetflow through stream buffers at nonerosive velocities, unless approved otherwise by this certification.
- \*10. Compensatory mitigation shall be done for impacts to protected Neuse Riparian Buffers. Compensatory mitigation for impacts to 92,095.00 square feet (2.11) acres of Neuse Riparian Buffers shall be provided for as described below:

Zone of Impact	Impacts (Square Feet)	Replacement Ratio	Total Square Feet of Mitigation Required
Zone 1	65,044.24	3:1	195,132.72
Zone 2	27,050.76	1.5:1	40,576.14
<b>Total</b>			<b>235,708.86</b>



Revised  
3-28-03

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We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through an in lieu payment to the North Carolina Wetland Restoration Program (NCWRP), and that the WRP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided through an in-lieu payment to the North Carolina Wetlands Restoration Program (NCWRP) at a rate of \$0.96 per acre for 235,709 square feet of buffer impact. Therefore, a total payment of \$226,281.00 shall be submitted to the NCWRP to offset the impacts. No construction activities in Neuse River Riparian buffers shall begin until payment for buffer mitigation is made and the Wetland Restoration Program receives and clears your check (made payable to DENR – Wetland Restoration Program). The payment to NCWRP shall be sent within two months of issuance of the 404 permit. If you have any questions concerning the Wetland Restoration Program please contact them at 919-733-5208.

- \* 11. 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.
12. 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 stream beds 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.
13. No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. Any request for changes to the referenced items above will require submittal of a modification request, with seven copies, and corresponding fees will need to be submitted to the North Carolina Division of Water Quality.
14. Any additional impacts beyond those authorized by this certification to any stream length or protected riparian buffer in the Neuse River Basin requires written concurrence from DWQ in accordance with 15A NCAC 2B.0233 and 15A NCAC 2H .0500. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse River Basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices.

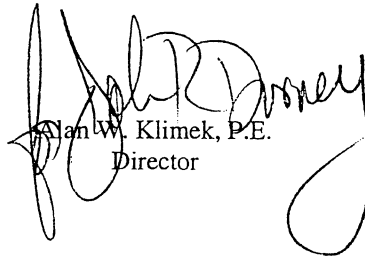
Violations of any condition herein set forth shall result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. 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 5<sup>th</sup> day of February 2003

DIVISION OF WATER QUALITY



Alan W. Klimek, P.E.  
Director

WQC No. 3411

**SPECIAL CONDITIONS (Action ID. 200220949; NCDOT/TIP I-306C)**

a. All work authorized by this permit must be prepared in strict compliance with the attached plans, which are a part of this permit.

✕ b. The permittee shall mitigate for 1,628 linear feet of impact to important streams, for the project, as described below (144 linear feet of on-site stream relocation and 1,602 linear feet of stream mitigation through the North Carolina Wetlands Restoration Program (NCWRP), in the upper Neuse River basin (Cataloging Unit 03020201)).

**ONSITE STREAM RELOCATION**

c. The permittee shall replace for 144 linear feet of unavoidable impacts to important stream channel associated with this project by completing 164 linear feet of onsite stream relocation, as described in the permit application. The stream relocation shall be constructed in accordance with the North Carolina Wildlife Resources Commission's (NCWRC) "Stream Relocation Guidelines", and with the attached permit drawings. NCDOT shall consult with NCWRC on all stream relocations and implement all practicable recommendations in the design of specific site requirements for re-establishment of bank vegetation, and placement of meanders and habitat structures. Vegetation shall be used to the maximum extent practicable to stabilize banks, and riprap and other man-made structural measures shall be minimized. The relocations will be constructed in a dry work area, and NCDOT shall ensure that the stream channel is sufficiently stabilized prior to the diversion of water into the new channel.

✕ d. The permittee shall visually monitor the vegetative plantings on all mitigation stream banks to assess and insure complete stabilization of the mitigation stream segments. This monitoring shall include adequate visual monitoring of planted vegetation quarterly for a minimum of two years after final planting, and appropriate remedial actions (e.g., replanting, streambank grading, etc.). If within any monitoring year, bank stabilization is not acceptable as determined by the Corps of Engineers, and remedial action required by the Corps of Engineers is performed, the two-year monitoring of the affected portions of the stream will begin again. The permittee will coordinate stream mitigation activities with the Corps of Engineers, Raleigh Regulatory Field Office Project Manager, and will report verbally on the status of the stream mitigation within thirty days of the quarterly monitoring. The permittee will submit a brief written report with representative photographs within 90 days after the monitoring year is completed.

**NCWRP STREAM MITIGATION**

✕ e. The permittee shall mitigate for 1,484 linear feet of unavoidable impacts to important stream channel associated with this project by payment to the North Carolina Wetlands Restoration Program (NCWRP) in an amount determined by the NCWRP sufficient to perform 1,602 linear feet of warm water stream mitigation, in the upper Neuse River basin (Cataloging



Unit 03020201). Construction within streams on the permitted highway project shall begin only after the permittee has made full payment to the NCWRP, and the NCWRP has made written confirmation to the District Engineer, that it agrees to accept responsibility for the mitigation work required, pursuant to Paragraph IV.D. of the Memorandum of Understanding between the North Carolina Department of Environment and Natural Resources and the U.S. Army Corps of Engineers, Wilmington District, dated November 4, 1998.

f. Failure to institute and carry out the details of special conditions a. - e, above, 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 remedy as the District Engineer or his authorized representatives may seek.

### OTHER CONDITIONS

\* g. Prior to commencing construction within jurisdictional waters of the United States for this project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Raleigh Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings are acceptable.

h. The permittee shall schedule a meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Raleigh 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 notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meetings.

i. The permittee and its contractors and/or agents shall not excavate, fill, or perform mechanized landclearing at any time in the construction or maintenance of this project within waters and/or wetlands, except as authorized by this permit, or any modification to this permit. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and fill activities connected with this project.

j. To ensure that all borrow and waste activities occur on high ground, 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 (i.) 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 (i.). 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.

k. The permittee shall comply with the conditions specified in the water quality certification, No.3411, issued by the North Carolina Division of Water Quality on February 5, 2003.

l. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard (50 NTU's in all streams and rivers).

m. 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.

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

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

p. No excavated or fill material will be placed at any time in waters or wetlands outside the permitted construction areas, nor will it be placed in any location or in any manner so as to impair surface water flow into or out of any wetland area.

q. The permittee will 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.

r. All fill material will be clean and free of any pollutants except in trace quantities. Metal products, organic materials, or unsightly debris will not be used.

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

t. This permit does not grant any property rights or exclusive privileges.

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

1. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

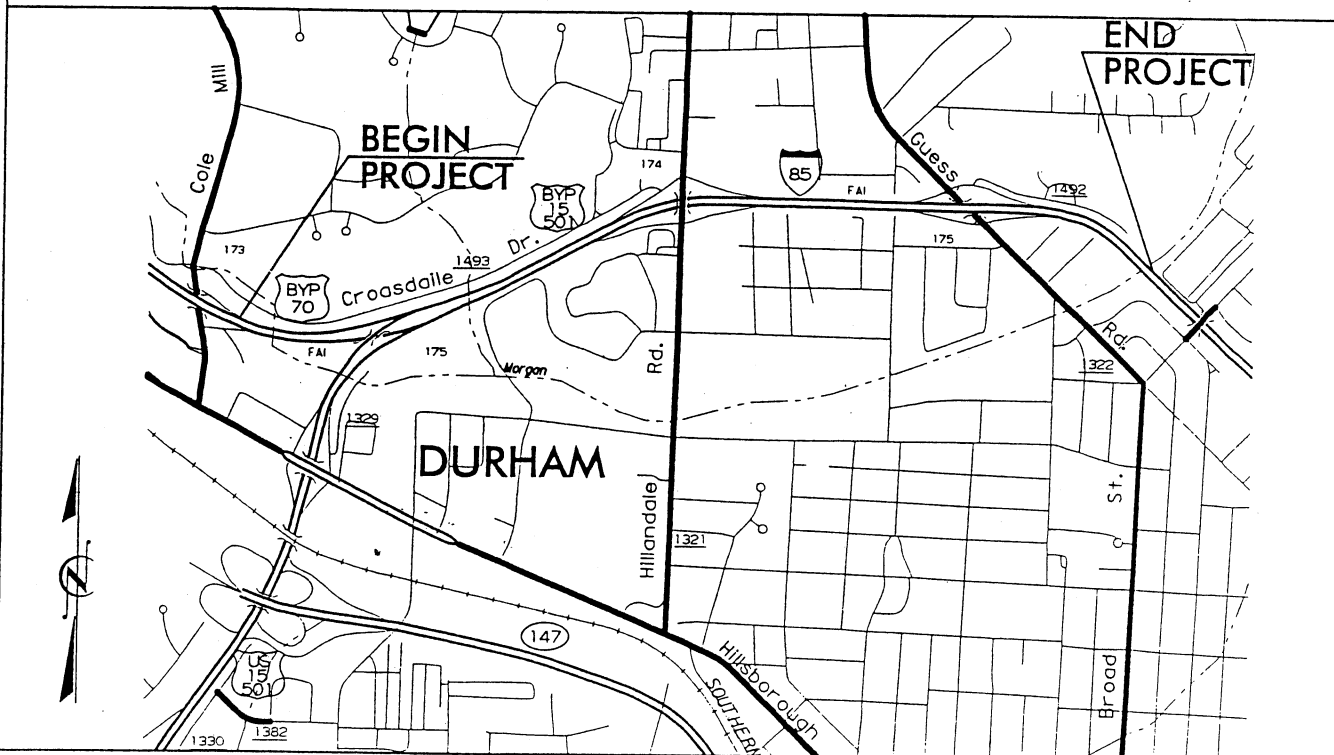
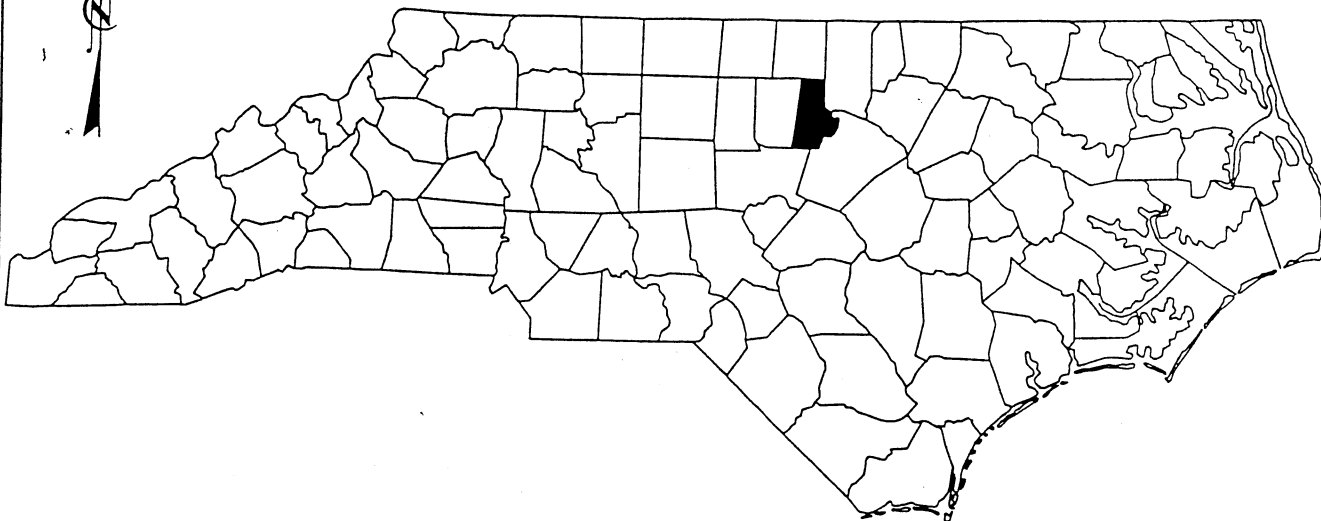
2. Damages to the permitted project or uses thereof as a result of current or future Federal activities initiated on behalf of the general public.

3. Damages to other permitted or unpermitted activities or structures caused by the authorized activity.

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

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

# NORTH CAROLINA



VICINITY  
MAPS

NCDOT

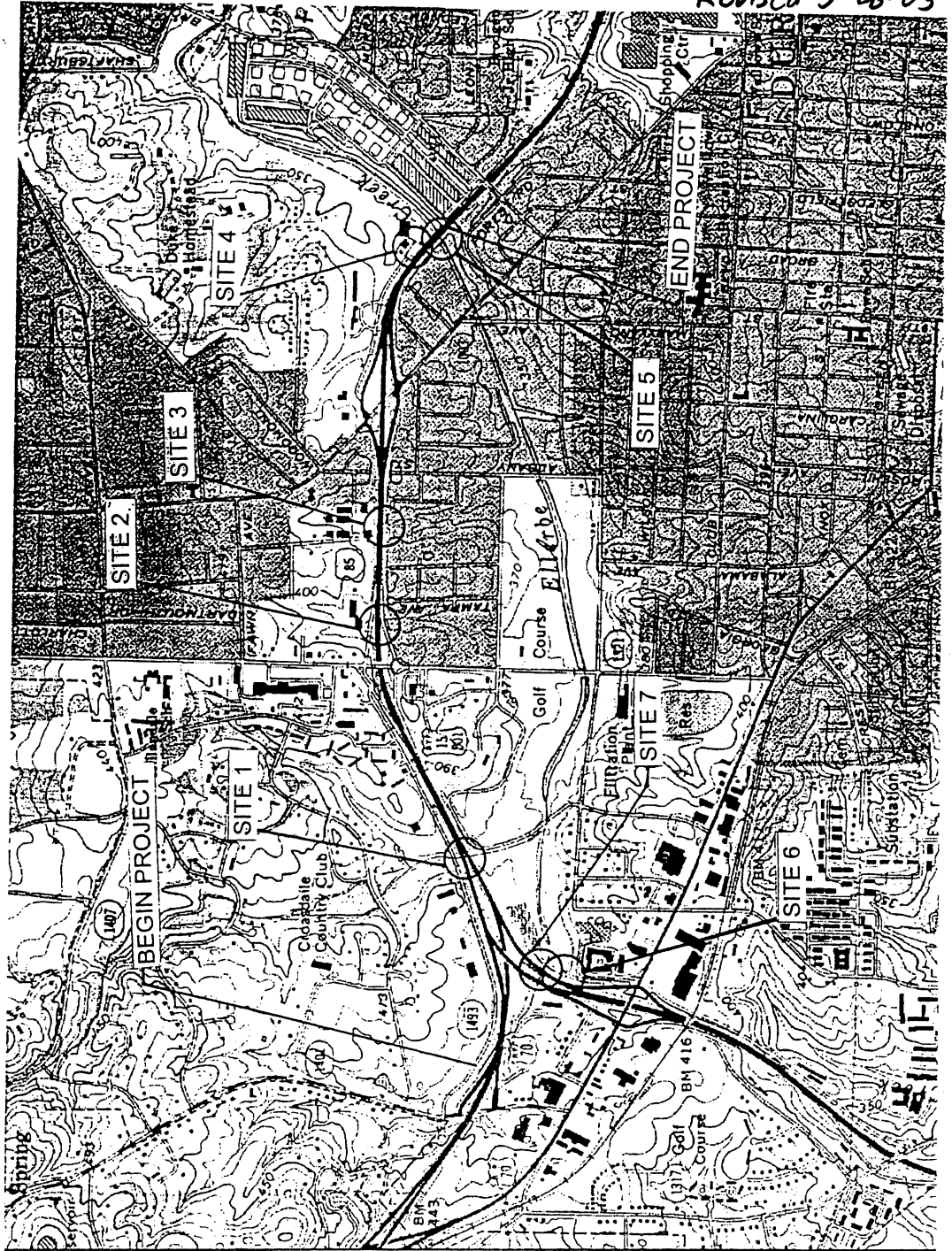
DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

I-85 FROM WEST OF US 15-501

TO WEST OF BROAD STREET



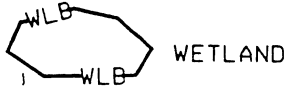
SITE  
MAP

NCDOT  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET

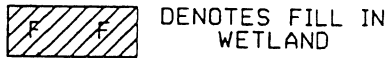
# WETLAND 584 LEGEND

*Revised*  
3-28-03

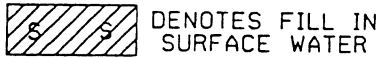
— WLB — WETLAND BOUNDARY



WETLAND



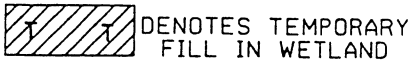
DENOTES FILL IN WETLAND



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

x x x x x  
x x x x x LIVE STAKES

~ BOULDER

----- CORE FIBER ROLLS

DITCH / SWALE

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT  
300mm-1200mm PIPES

(DASHED LINES DENOTE EXISTING STRUCTURES)

1250mm PIPES & ABOVE

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

RIP RAP

5 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

PREFORMED SCOUR HOLE

## NCDOT

DIVISION OF HIGHWAYS

DURHAM COUNTY


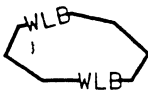



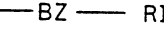
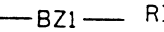
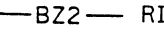
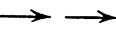

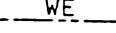
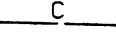
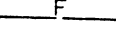

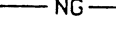
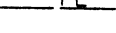

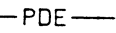

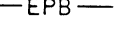
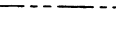
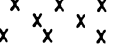

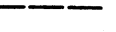
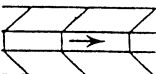
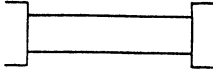
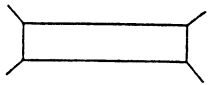



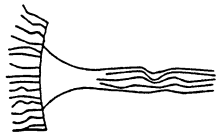




PROJECT: 8.1414801 (I-306C)

I-85 FROM WEST OF US 15-501

TO WEST OF BROAD STREET

# BUFFER 585 LEGEND

Revised  
3-28-03

-  WETLAND BOUNDARY
-  WETLAND
-  PERMANENT IMPACTS ZONE 1
-  PERMANENT IMPACTS ZONE 2
-  TEMPORARY IMPACTS
-  RIPARIAN BUFFER ZONE
-  RIPARIAN BUFFER ZONE 1  
30 ft (9.2m)
-  RIPARIAN BUFFER ZONE 2  
20 ft (6.1m)
-  FLOW DIRECTION
-  TOP OF BANK
-  EDGE OF WATER
-  PROP. LIMIT OF CUT
-  PROP. LIMIT OF FILL
-  PROP. RIGHT OF WAY
-  NATURAL GROUND
-  PROPERTY LINE
-  TEMP. DRAINAGE EASEMENT
-  PERMANENT DRAINAGE EASEMENT
-  EXIST. ENDANGERED ANIMAL BOUNDARY
-  EXIST. ENDANGERED PLANT BOUNDARY
-  WATER SURFACE
-  LIVE STAKES
-  BOULDER
-  CORE FIBER ROLLS
-  DITCH / SWALE
-  PROPOSED BRIDGE
-  PROPOSED BOX CULVERT
-  PROPOSED PIPE CULVERT  
12"-48"  
PIPES  
54" PIPES  
& ABOVE
- (DASHED LINES DENOTE  
EXISTING STRUCTURES)
-  SINGLE TREE
-  WOODS LINE
-  DRAINAGE INLET
-  ROOTWAD
-  RIP RAP
-  ADJACENT PROPERTY OWNER  
OR PARCEL NUMBER  
IF AVAILABLE
-  PREFORMED SCOUR HOLE

**NCDOT**  
DIVISION OF HIGHWAYS

DURHAM COUNTY  
PROJECT: 8.1414801 (I-306C)

I-85 FROM WEST OF US 15-501  
TO WEST OF BROAD STREET

# PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	CITY OF DURHAM	101 CITY HALL PLAZA DURHAM, NC 27701
2	CENTRAL CAROLINA BANK	P.O. BOX 931 DURHAM, NC 27702
3	VERNON J. FINCH	2804 GREEN LANE DR. DURHAM, NC 27712
4	VELINDA C. HALL	1917 FRONT ST., APT. #4 DURHAM, NC 27705
5	FREDERICK G. SORRELL III	P.O. BOX 51577 DURHAM, NC 27717
6	TABERNACLE OF LIFE CHURCH	2400 SOVEREIGN ST DURHAM, NC 27705
7	ROBERT F. SHARP	P.O. BOX 219 WILSON, NC 27893
8	NCDOT	
9	RUTH D. LONG	307 W DELAFIELD AVE DURHAM, NC 27704
10	JOHNNY C. JEFFREYS	4400 CHEEK ROAD DURHAM, NC 27703
11	CHARLES W. RIPLEY	P.O. BOX 51475 DURHAM, NC 27717
12	H. & G. PROPERTIES	120 HWY. 15-501 BYPASS DURHAM, NC 27705

## NCDOT

DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

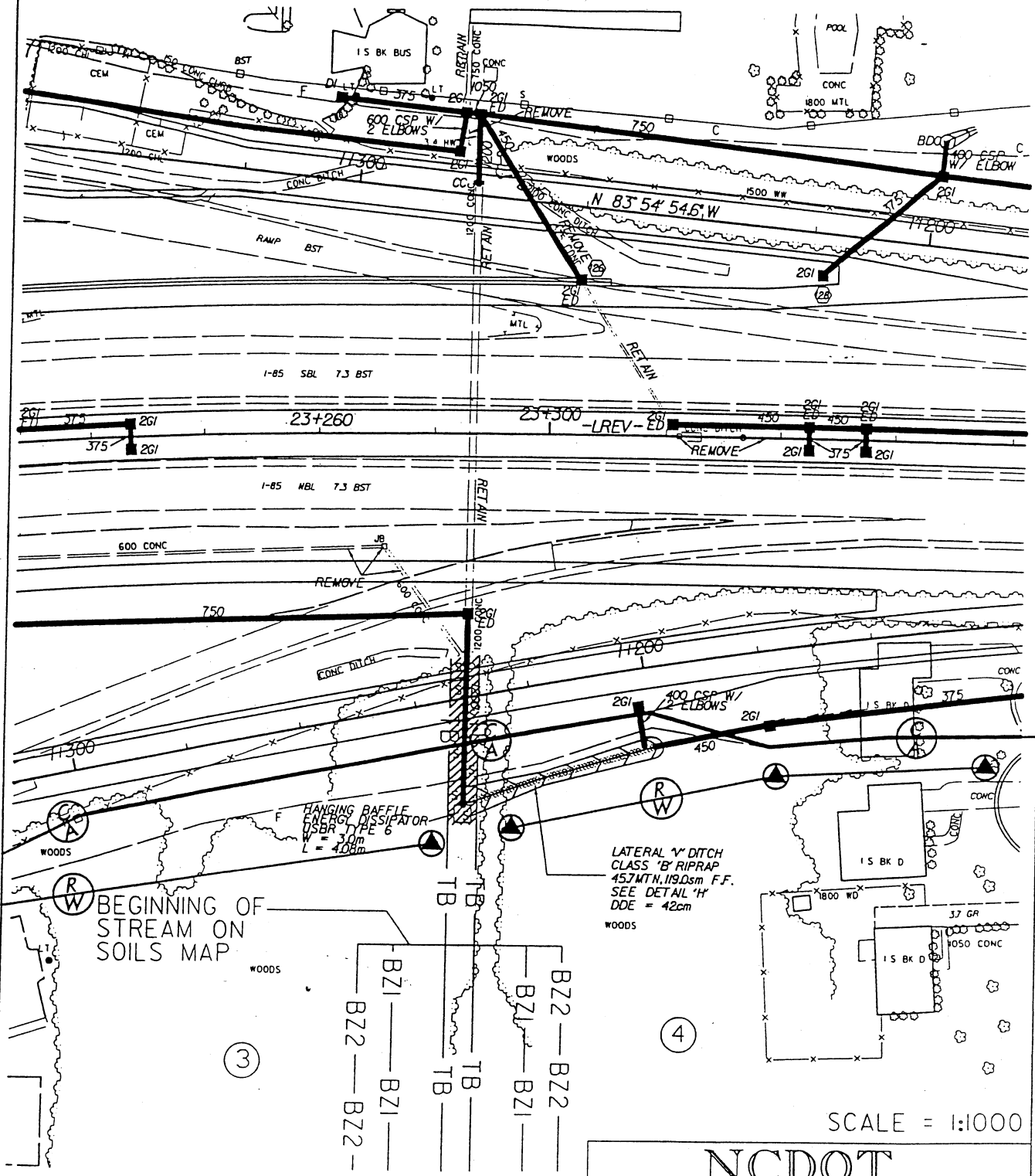
I-85 FROM WEST OF US 15-5001

TO WEST OF BROAD STREET



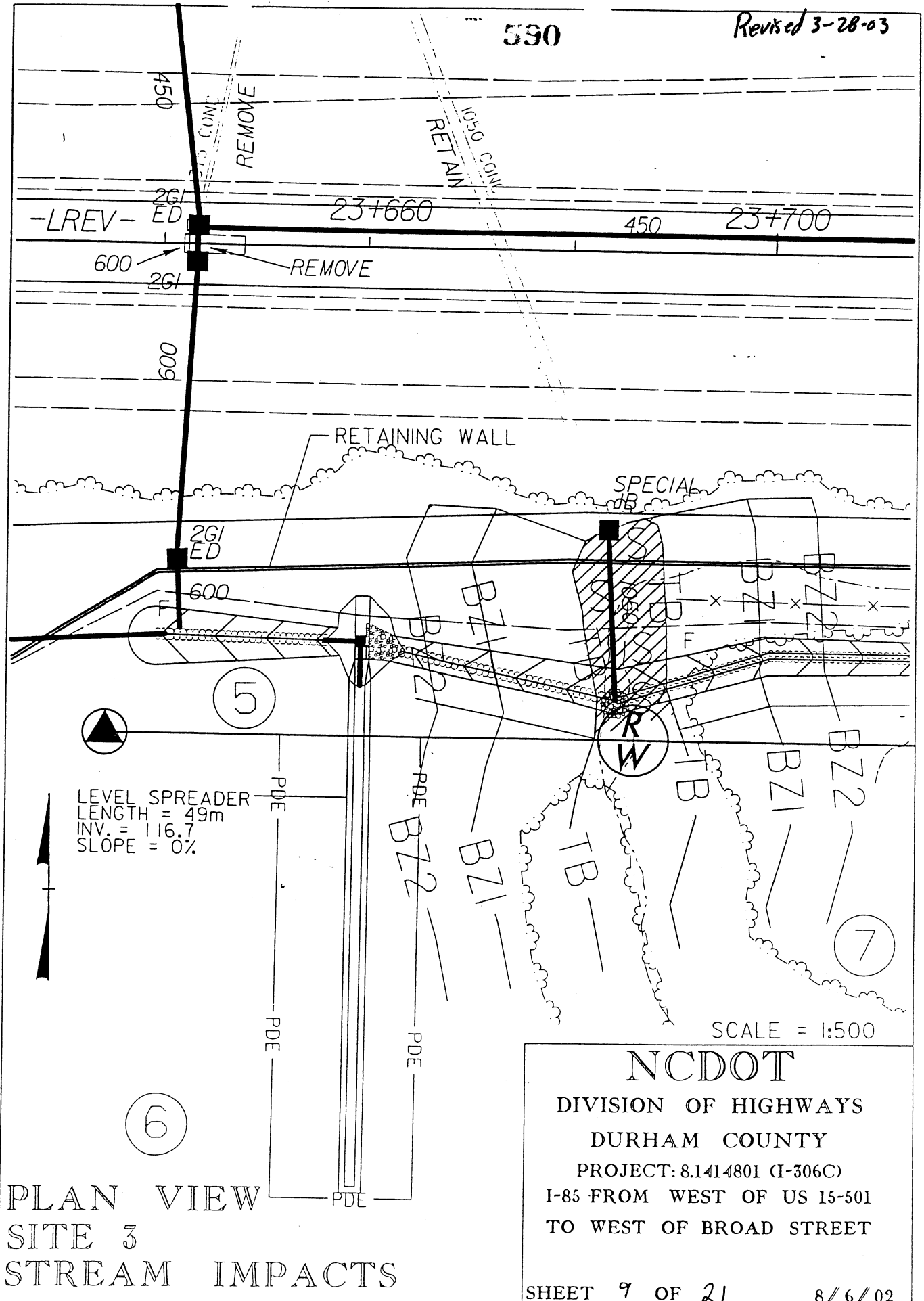






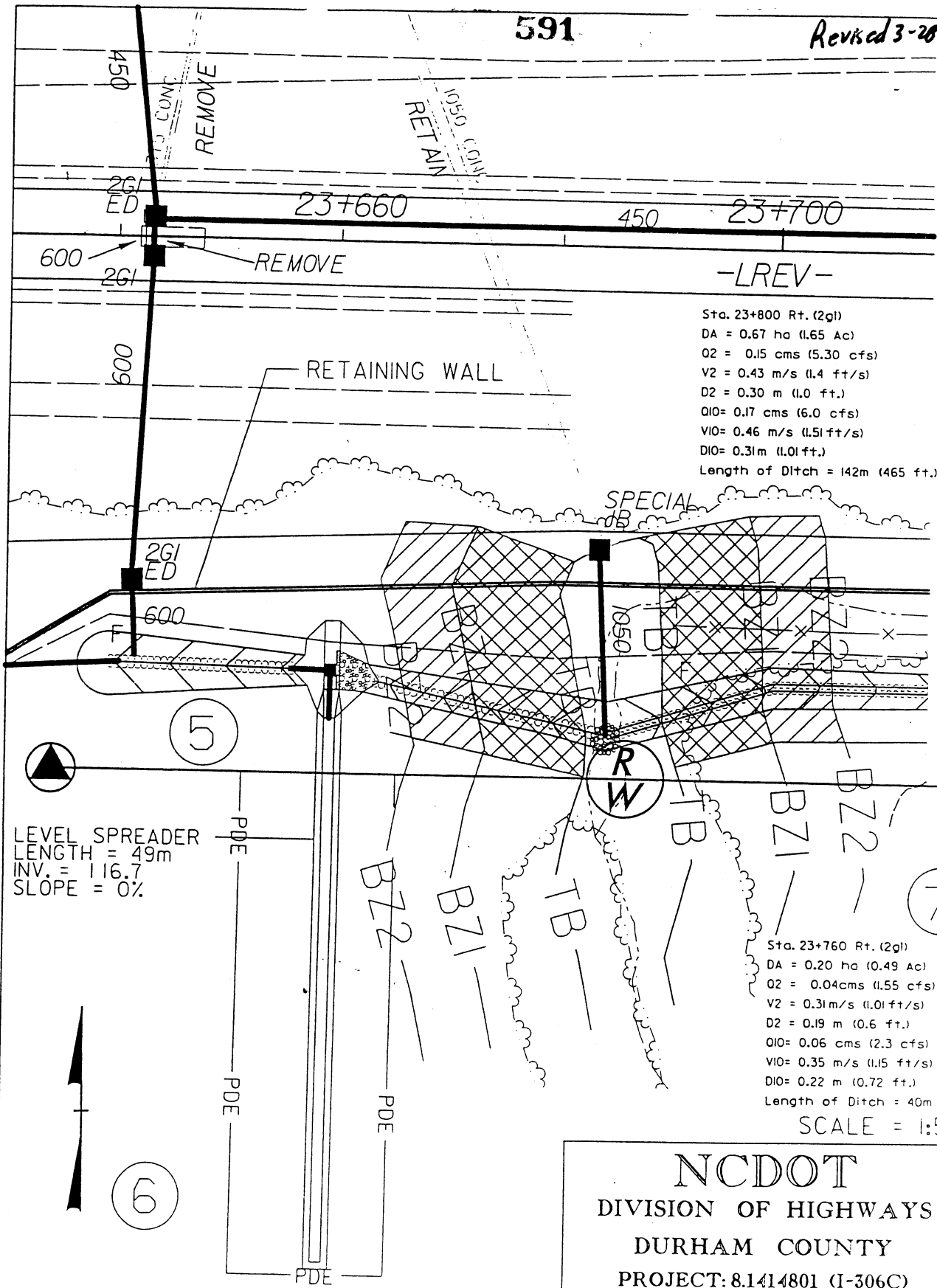
PLAN VIEW  
SITE 2  
STREAM IMPACTS

NCDOT  
DIVISION OF HIGHWAYS  
DURHAM COUNTY  
PROJECT: 8.1414801 (I-306C)  
I-85 FROM WEST OF US 15-501  
TO WEST OF BROAD STREET  
SHEET 8 OF 21 8/06/02



PLAN VIEW  
 SITE 3  
 STREAM IMPACTS

NCDOT  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET  
 SHEET 9 OF 21 8/6/02



PLAN VIEW  
SITE 3  
BUFFER IMPACTS

NCDOT  
DIVISION OF HIGHWAYS  
DURHAM COUNTY  
PROJECT: 8.1414801 (I-306C)  
I-85 FROM WEST OF US 15-501  
TO WEST OF BROAD STREET  
SHEET 10 OF 21  
8/6/02



**NCDOT**  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET

SHEET 11 OF 21 8/6/02

PLAN VIEW  
 SITE 4  
 STREAM IMPACTS

SCALE = 1:1000

SCALE = 1:1000

NCDOT

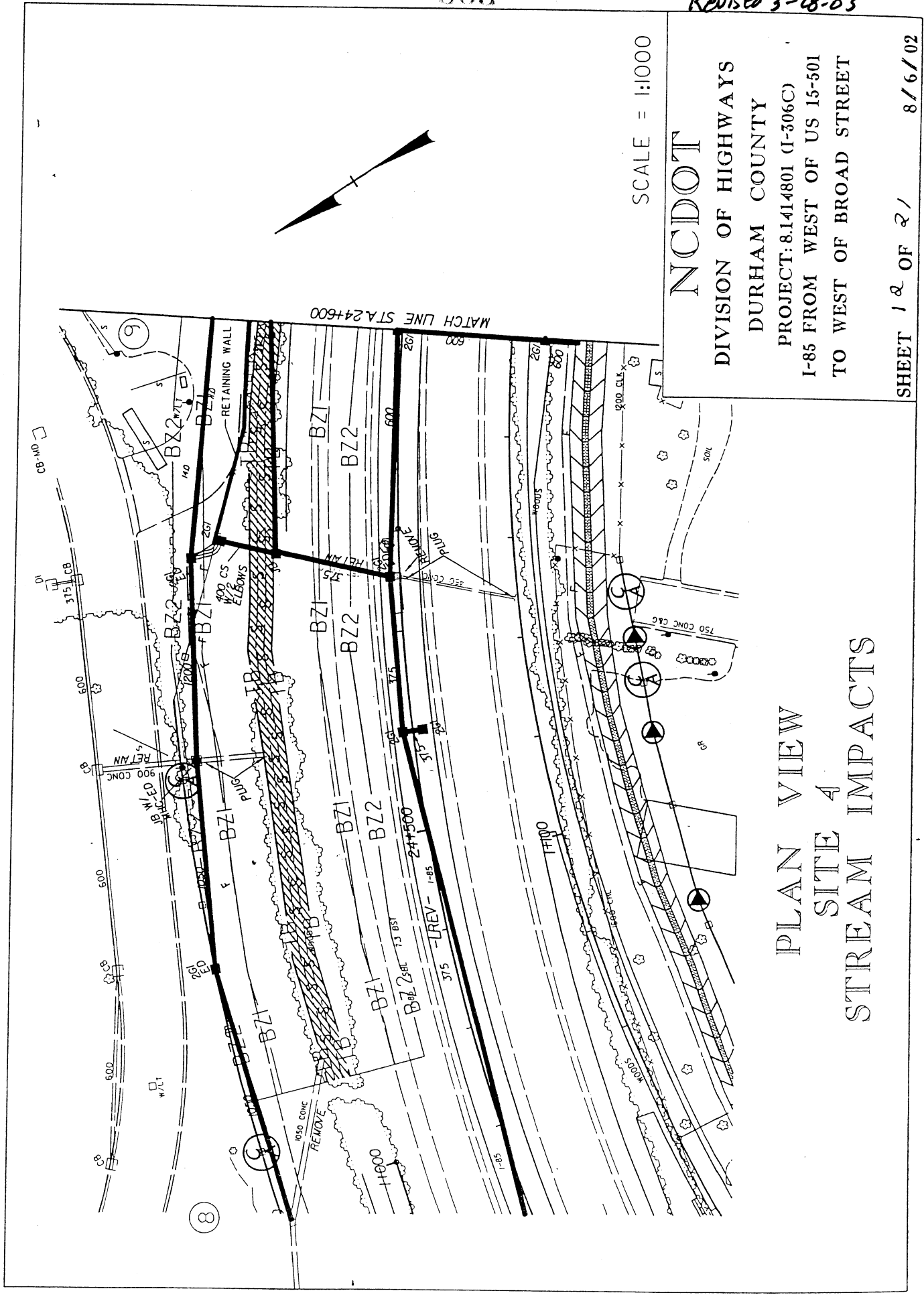
DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

I-85 FROM WEST OF US 15-501

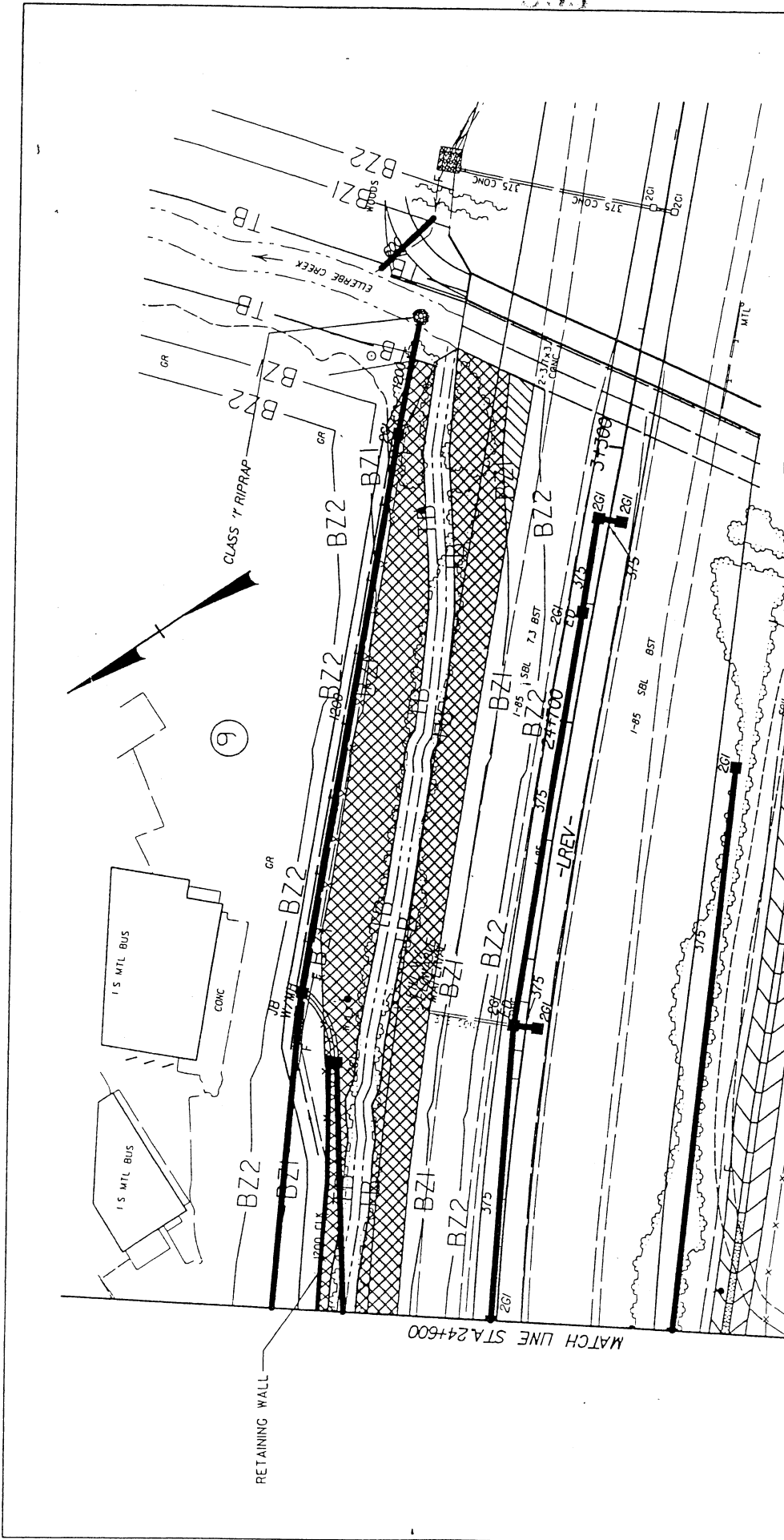
TO WEST OF BROAD STREET



PLAN VIEW  
 SITE 4  
 STREAM IMPACTS







NCDOT

DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

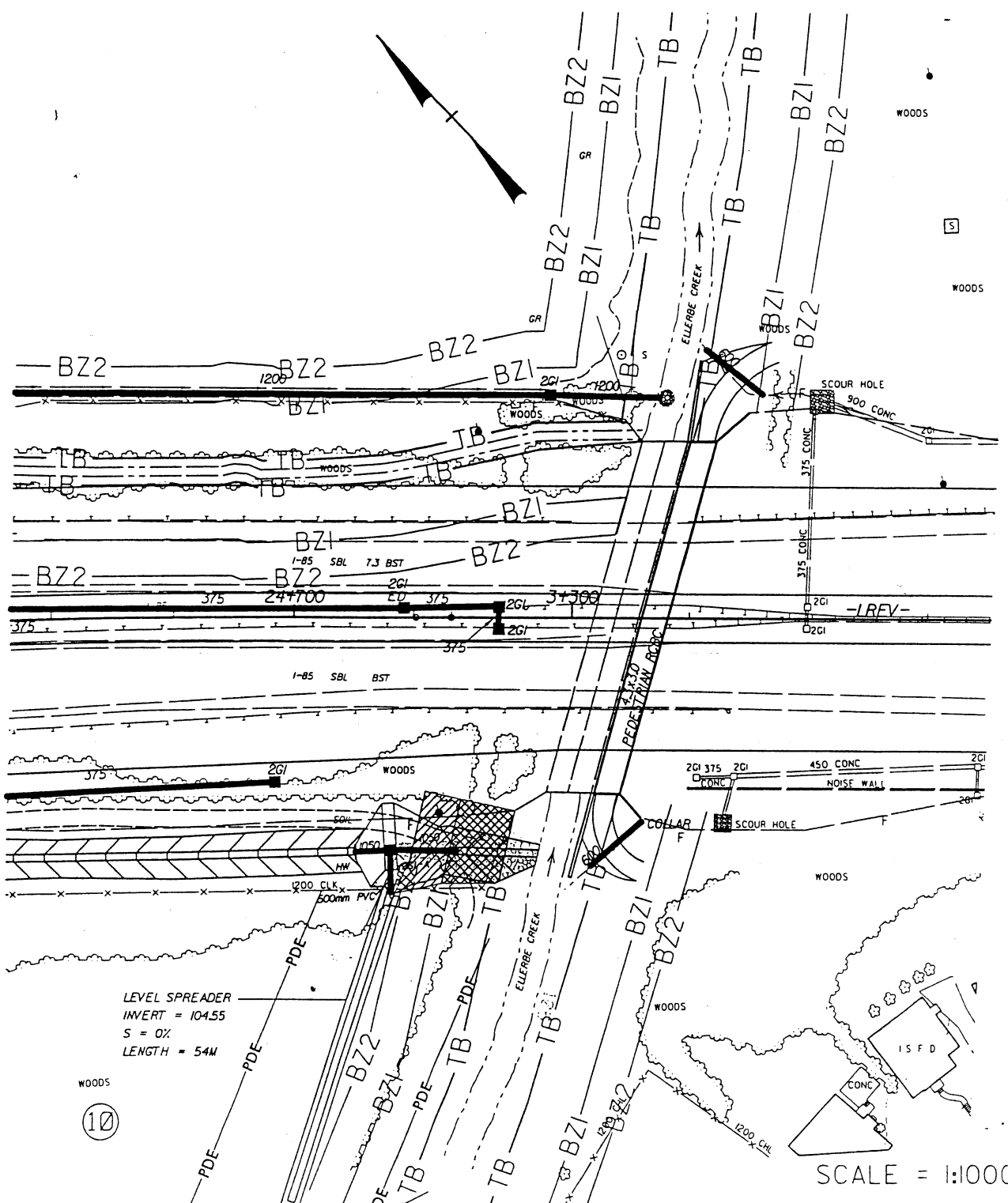
I-85 FROM WEST OF US 15-501

TO WEST OF BROAD STREET

SCALE = 1:1000

SHEET 1/4 OF 2/ 8/6/02

PLAN VIEW  
 SITE 4  
 BUFFER IMPACTS



PLAN VIEW  
 SITE 5  
 BUFFER IMPACTS

**NCDOT**  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414804 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET  
 SHEET 15 OF 21  
 8/06/02

NCDOT

DIVISION OF HIGHWAYS

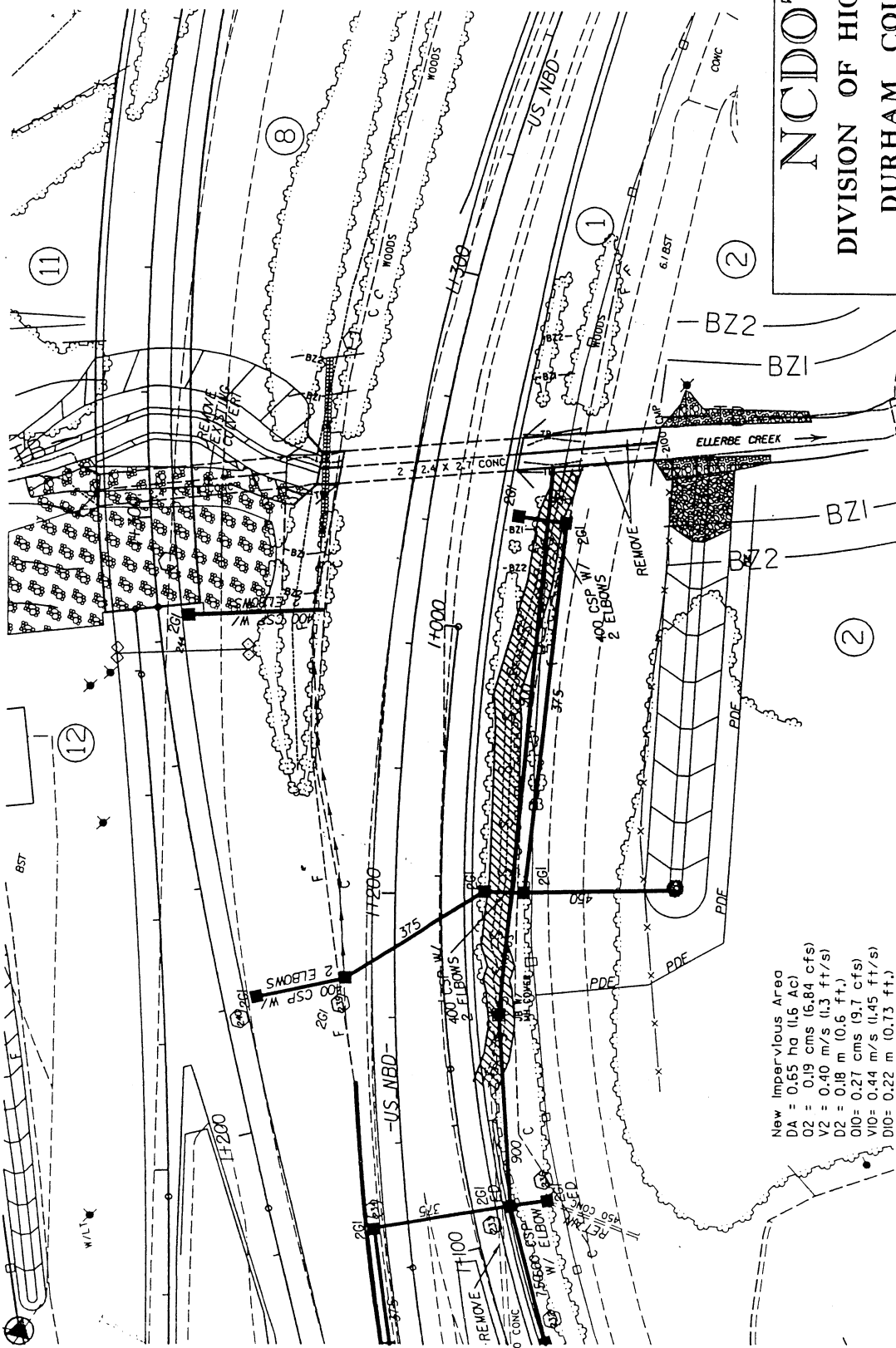
DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

I-85 FROM WEST OF US 15-501

TO WEST OF BROAD STREET

SHEET 16 OF 21 9/9/02

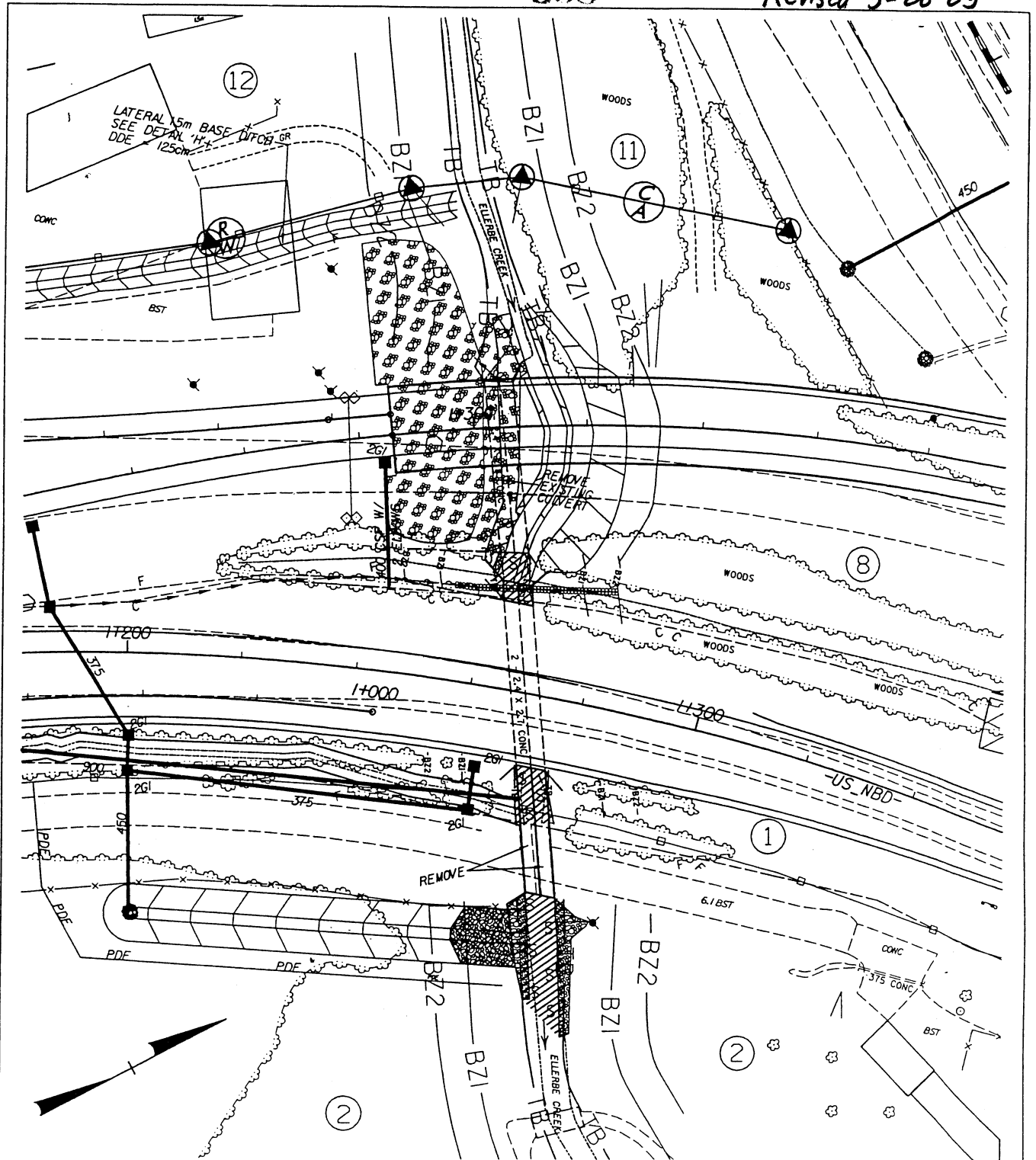


New ImperVIOUS Area  
 DA = 0.55 ha (1.6 AC)  
 O2 = 0.19 cms (6.84 cfs)  
 V2 = 0.40 m/s (1.3 ft/s)  
 D2 = 0.18 m (0.6 ft)  
 O10 = 0.27 cms (9.7 cfs)  
 V10 = 0.44 m/s (1.45 ft/s)  
 D10 = 0.22 m (0.73 ft.)

Channel Slope = .68%

PLAN VIEW  
 SITE 6  
 STREAM IMPACTS

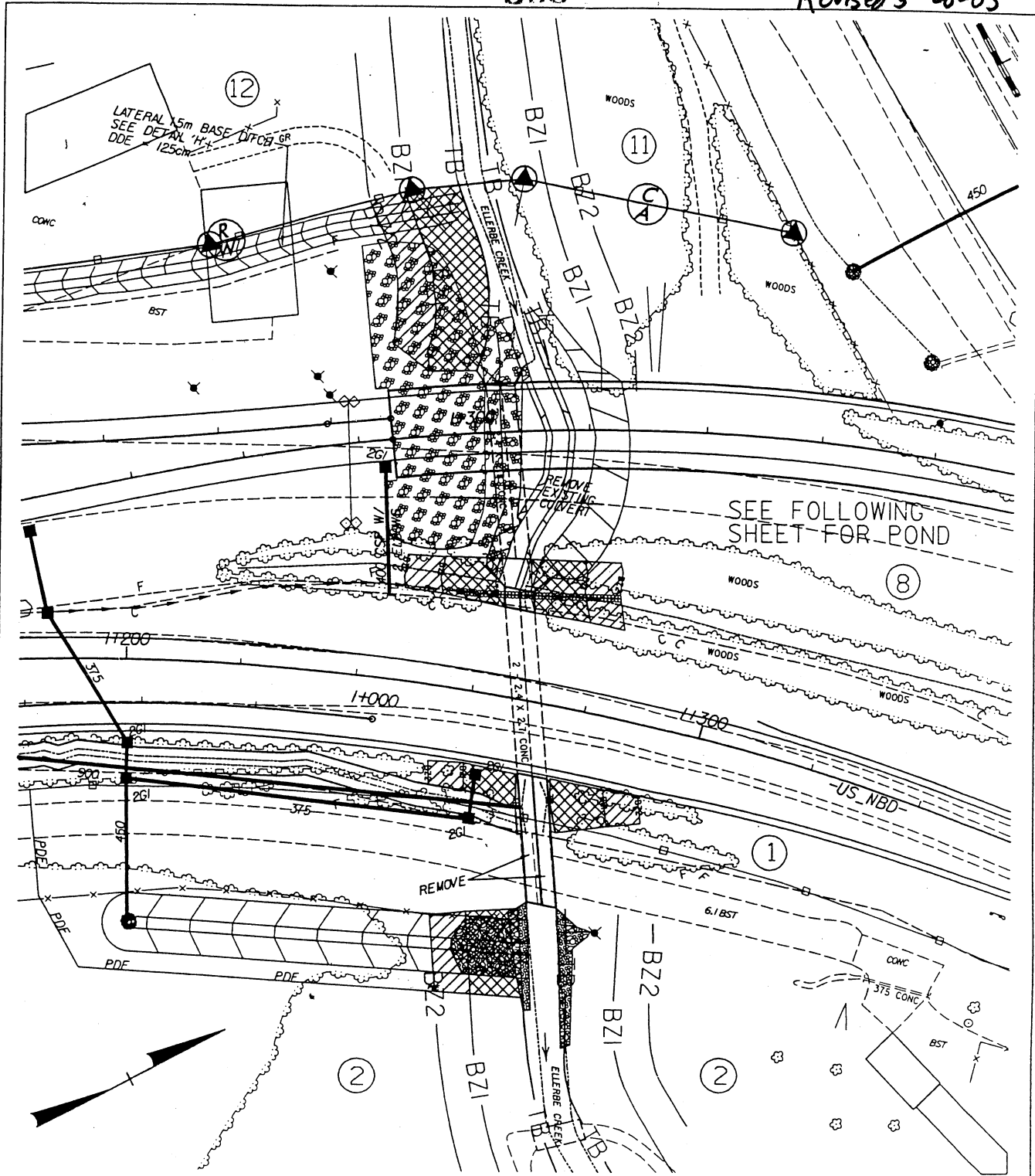
SCALE = 1:1000



PLAN VIEW  
 SITE 7  
 STREAM IMPACTS

SCALE = 1:1000

NCDOT  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET



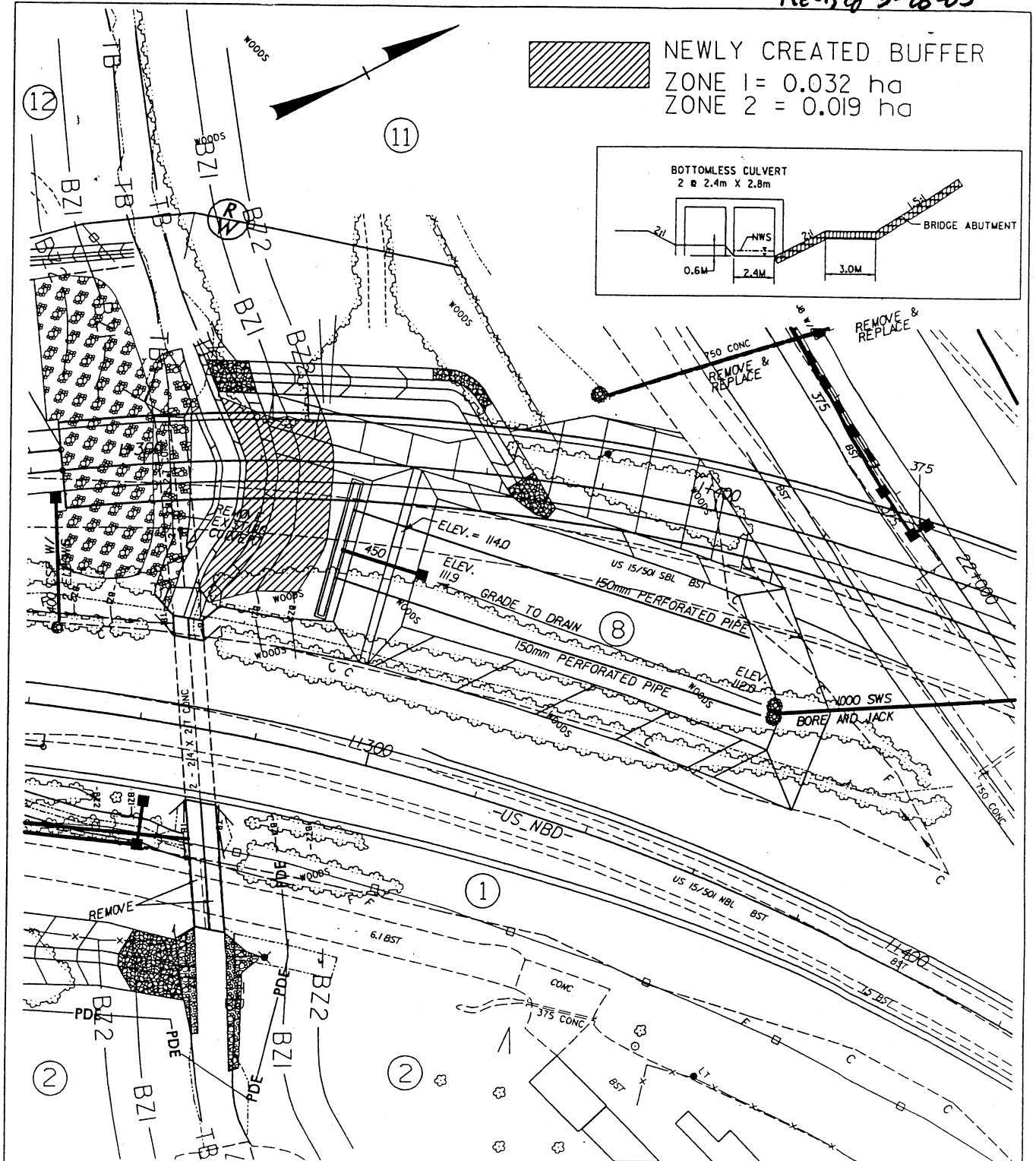
PLAN VIEW  
 SITE 7  
 BUFFER IMPACTS

SCALE = 1:1000

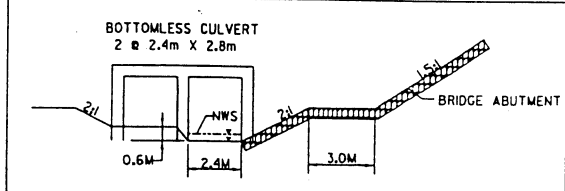
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 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET

SHEET 18 OF 21

8 / 27 / 02



NEWLY CREATED BUFFER  
 ZONE 1 = 0.032 ha  
 ZONE 2 = 0.019 ha



SEE PREVIOUS SHEET FOR BUFFER IMPACTS

PLAN VIEW  
 SITE 7  
 STORMWATER  
 MANAGEMENT

SCALE = 1:1000

NCDOT  
 DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT: 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS					
			Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation In Wetlands (ha)	Mechanized Clearing (Method III) (ha)	Fill In SW (Natural) (ha)	Fill In SW (Pond) (ha)	Temp. Fill In SW (ha)	Existing Channel Impacted (m)	Natural Stream Design (m)	
1	22+380 to 22+520 -L-	2 @ 2.1 x 2.1 RCBC	0	0	0	0	0.048	0	0	0	36	0
2	22+287 -L-	1200mm RCP	0	0	0	0	0.015	0	0	0	29.4	0
3	23+680 -L-	1050mm RCP	0	0	0	0	0.015	0	0	0	20	0
4	24+460 to 24+740 -L-	1200mm RCP	0	0	0	0	0.142	0	0	0	315	0
5	24+720 to 24+737 -L-	2 @ 3.7 x 3.0 RCBC	0	0	0	0	0	0	0	0	0	0
6	1+170 to 1+270 -USNBD-	900mm RCP	0	0	0	0	0.041	0	0	0	101.6	0
7	1+269 -USNBD-	2 @ 2.7 x 2.4 RCBC	0	0	0	0	0.025	0	0	0.003	44	0
TOTALS:			0	0	0	0	0.286	0	0	0.003	546	0

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DIVISION OF HIGHWAYS  
 DURHAM COUNTY  
 PROJECT 8.1414801 (I-306C)  
 I-85 FROM WEST OF US 15-501  
 TO WEST OF BROAD STREET

**BUFFER IMPACTS SUMMARY**

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	PERMANENT IMPACTS			WETLANDS IN BUFFER			BUFFER REPLACEMENT	
			ZONE 1 (ha)	ZONE 2 (ha)	TOTAL (ha)	LINEAR (m)	ZONE 1 (ha)	ZONE 2 (ha)	ZONE 1 (ha)	ZONE 2 (ha)
1	2 @ 2.1 x 2.1 RCBC	22+380/22+520-L-	0.021	0.016	0.037	13.50	0	0	0	0
2	1200mm RCP	23+287 -L-	0	0	0	0.00	0	0	0	0
3	1050mm RCP	23+680 -L-	0.038	0.025	0.063	21.00	0	0	0	0
4	1200mm RCP	24+460/24+740-L-	0.46	0.047	0.507	315.00	0	0	0	0
5	2 @ 3.7 x 3.0 RCBC	24+720/24+737-L-	0.014	0.009	0.023	15.70	0	0	0	0
6	NOT ON SOILS MAP OR USGS TOPO MAP									
7	2 @ 2.4 x 2.7 RCBC	1+269 -USNBD-	0.071	0.043	0.114	64.60	0	0	0	0
<b>TOTAL:</b>			0.604	0.14	0.744	429.80	0	0	0	0

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

DURHAM COUNTY  
PROJECT: 8.1414801 (I-306C)

November 29, 2001  
SHEET 2 / OF 21



*Revised 3-28-03*

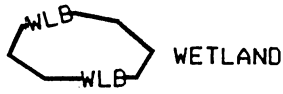
603

**UTILITY**

**IMPACTS**

# BUFFER 604 LEGEND

— WLB — WETLAND BOUNDARY



— BZ — RIPARIAN BUFFER ZONE

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

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

→ FLOW DIRECTION

— TB — TOP OF BANK

— WE — EDGE OF WATER

— C — PROP. LIMIT OF CUT

— F — PROP. LIMIT OF FILL

▲ PROP. RIGHT OF WAY

— NG — NATURAL GROUND

— PL — PROPERTY LINE

— TDE — TEMP. DRAINAGE EASEMENT

— PDE — PERMANENT DRAINAGE EASEMENT

— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY

— EPB — EXIST. ENDANGERED PLANT BOUNDARY

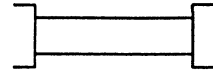
— — — — — WATER SURFACE

x x x x  
x x x x  
LIVE STAKES

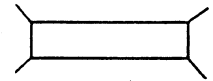
○ BOULDER

— — — — — CORE FIBER ROLLS

— — — — — DITCH / SWALE



PROPOSED BRIDGE



PROPOSED BOX CULVERT



PROPOSED PIPE CULVERT

(DASHED LINES DENOTE EXISTING STRUCTURES)

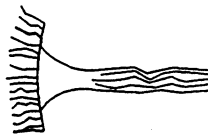
12"-48"  
PIPES  
54" PIPES  
& ABOVE



SINGLE TREE



WOODS LINE



DRAINAGE INLET

ROOTWAD



RIP RAP



ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE



PREFORMED SCOUR HOLE

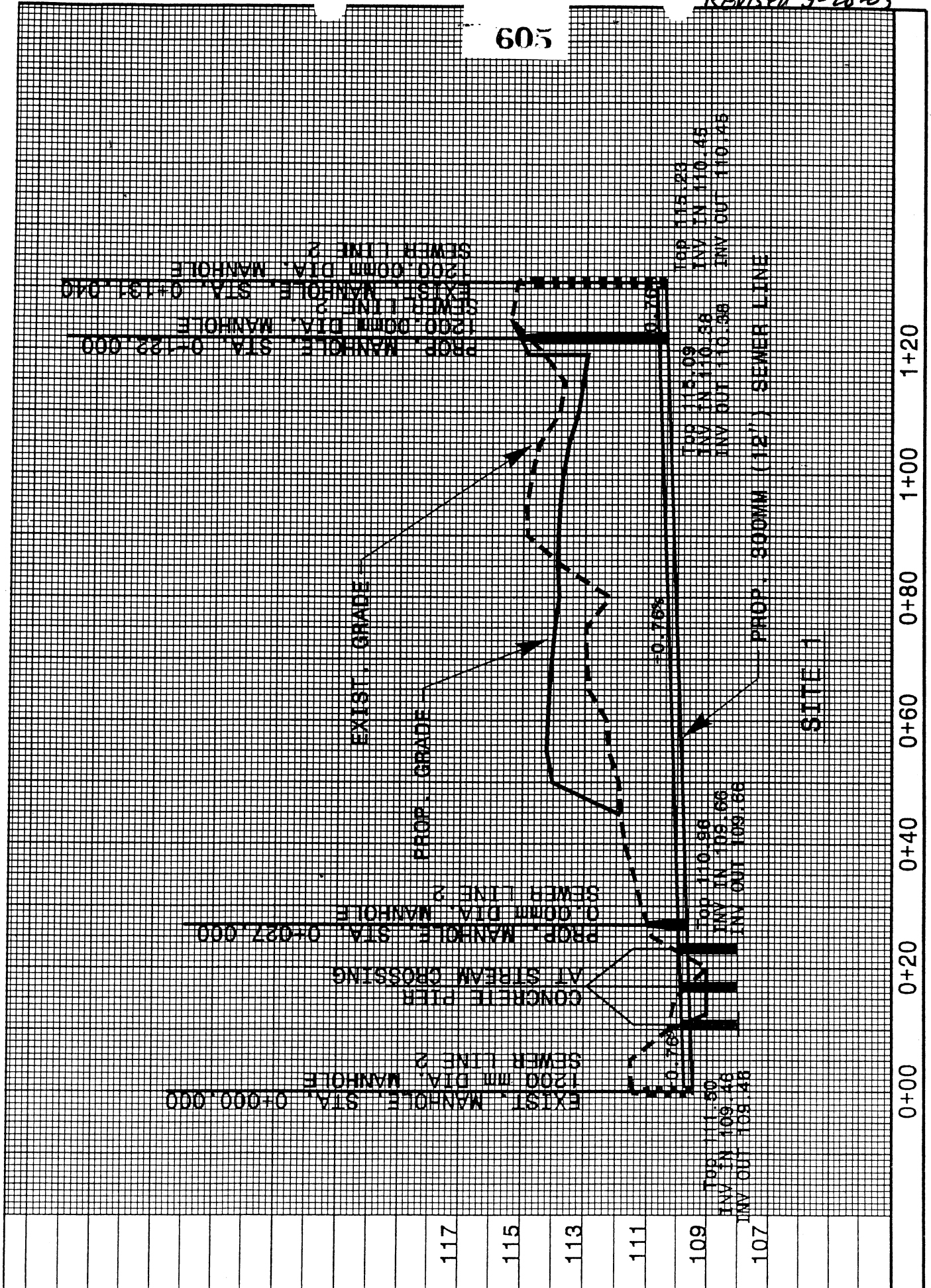
**NCDOT**  
DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801 (I-306C)

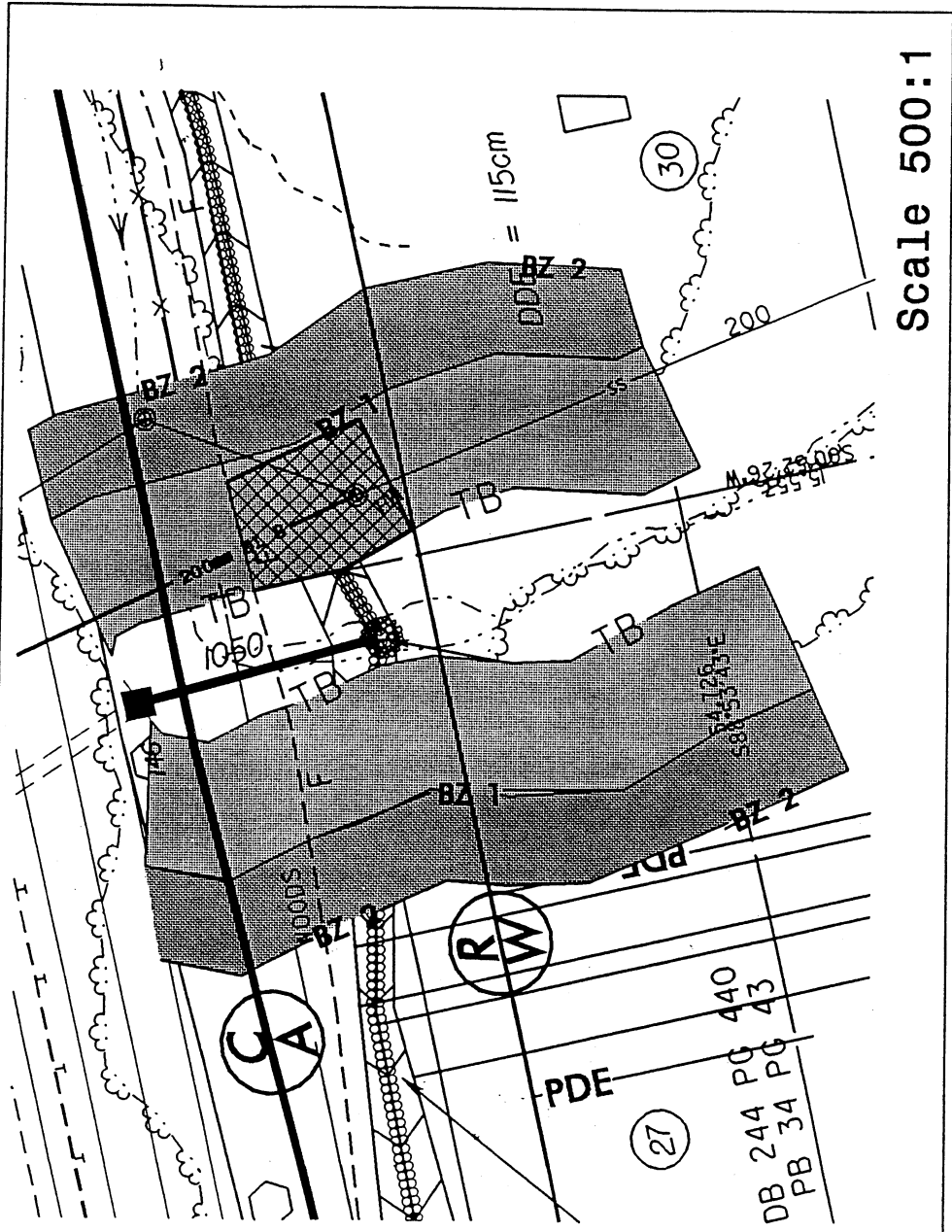
I-85 FROM EAST OF US 15-501  
TO WEST OF BROAD STREET

605



Sheet 2 of 14





PLAN VIEW  
 SITE 3  
 BUFFER ZONE  
 IMPACTS

Scale 500:1

LOCATION, RIGHT OF STA. 23+680 LINE -LREV-

PERMANENT IMPACTS  
 ZONE 1

Length=35.50 ft  
 Area=958.32 ft<sup>2</sup>

PERMANENT IMPACTS  
 ZONE 2

Length=0.00 ft  
 Area=0.00 ft<sup>2</sup>

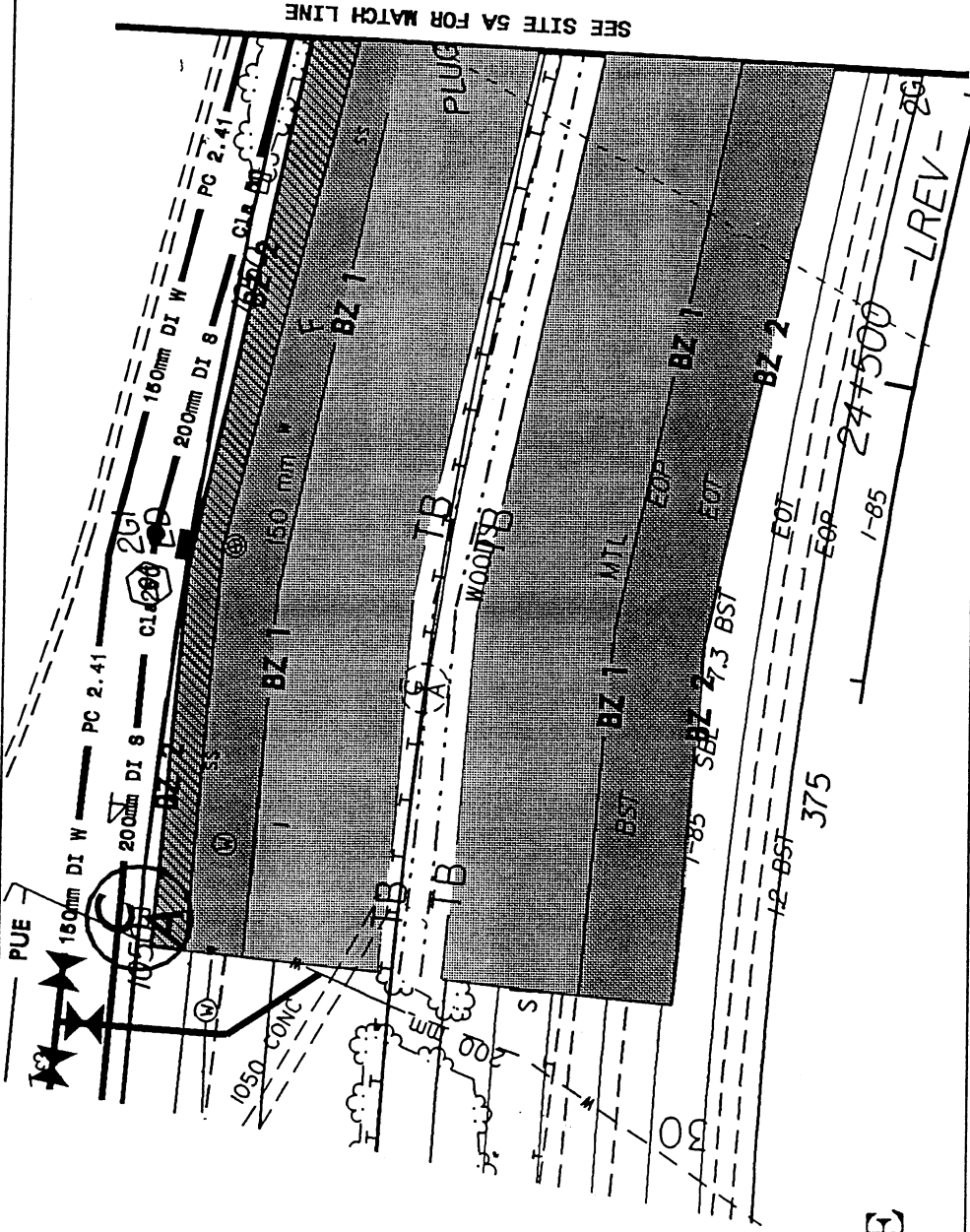
N. C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

DURHAM COUNTY

PROJECT: 8.1414801, (I-0306C)  
 I-85 FROM EAST OF US 15/501  
 TO WEST OF BROAD STREET

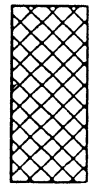
SHEET 4 OF 14

Scale 500:1



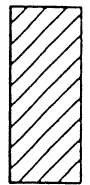
PLAN VIEW  
SITE 4  
BUFFER ZONE  
IMPACTS

LOCATION RANGE, LEFT OF LINE -LREV-  
FROM STA. 24+460 TO STA. 24+726



PERMANENT IMPACTS  
ZONE 1

Length=0.00 ft  
Area=0.00 ft<sup>2</sup>



PERMANENT IMPACTS  
ZONE 2

Length=203.36 ft  
Area=1611.72 ft<sup>2</sup>

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

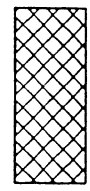
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I-85 FROM EAST OF US 15/501  
TO WEST OF BROAD STREET  
SHEET 5 OF 14

Revised 3-28-03



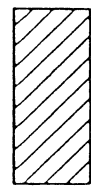
PLAN VIEW  
SITE 4B  
BUFFER ZONE  
IMPACTS

LOCATION RANGE, LEFT OF LINE - LREV -  
FROM STA. 24+460 TO STA. 24+726



PERMANENT IMPACTS  
ZONE 1

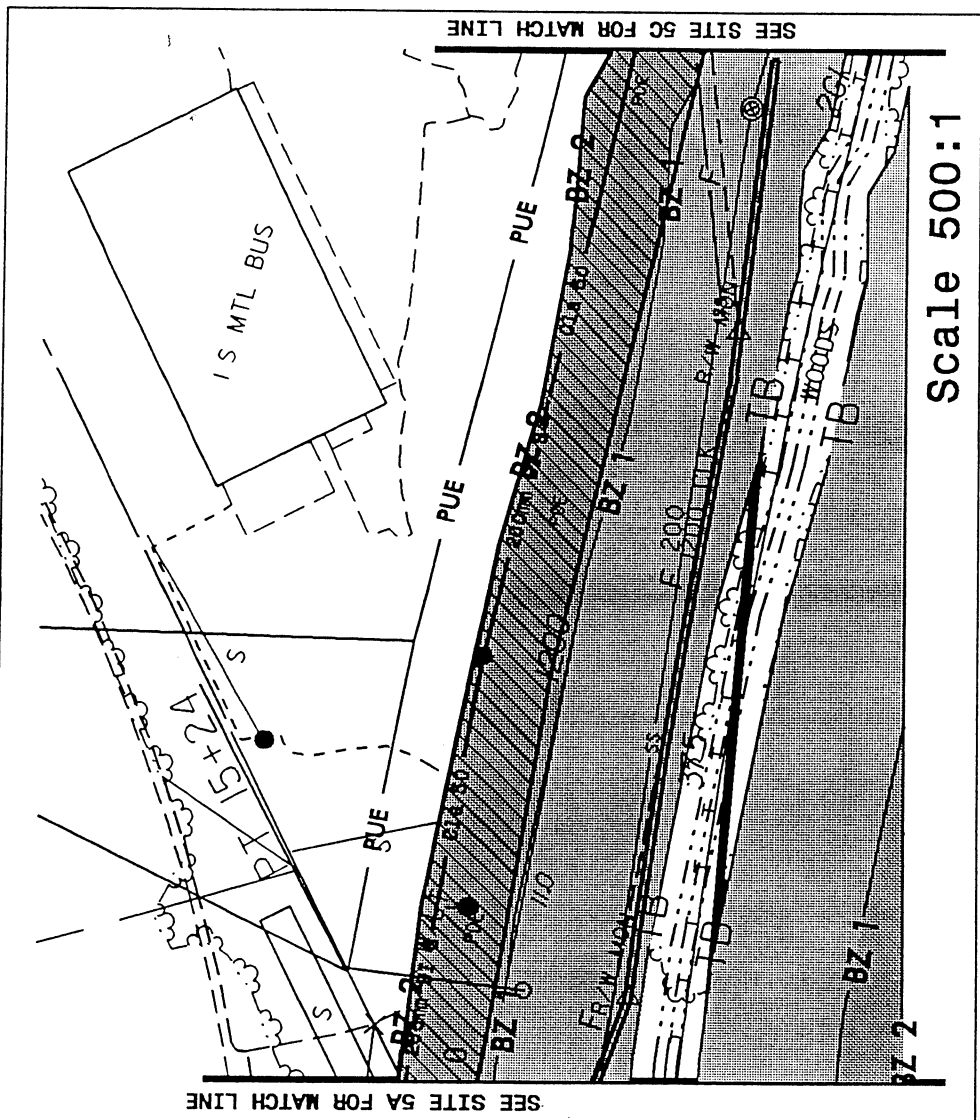
Length=0.00 ft  
Area=0.00 ft<sup>2</sup>



PERMANENT IMPACTS  
ZONE 2

Length=229.05 ft  
Area=4138.20 ft<sup>2</sup>

Scale 500:1



N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

DURHAM COUNTY

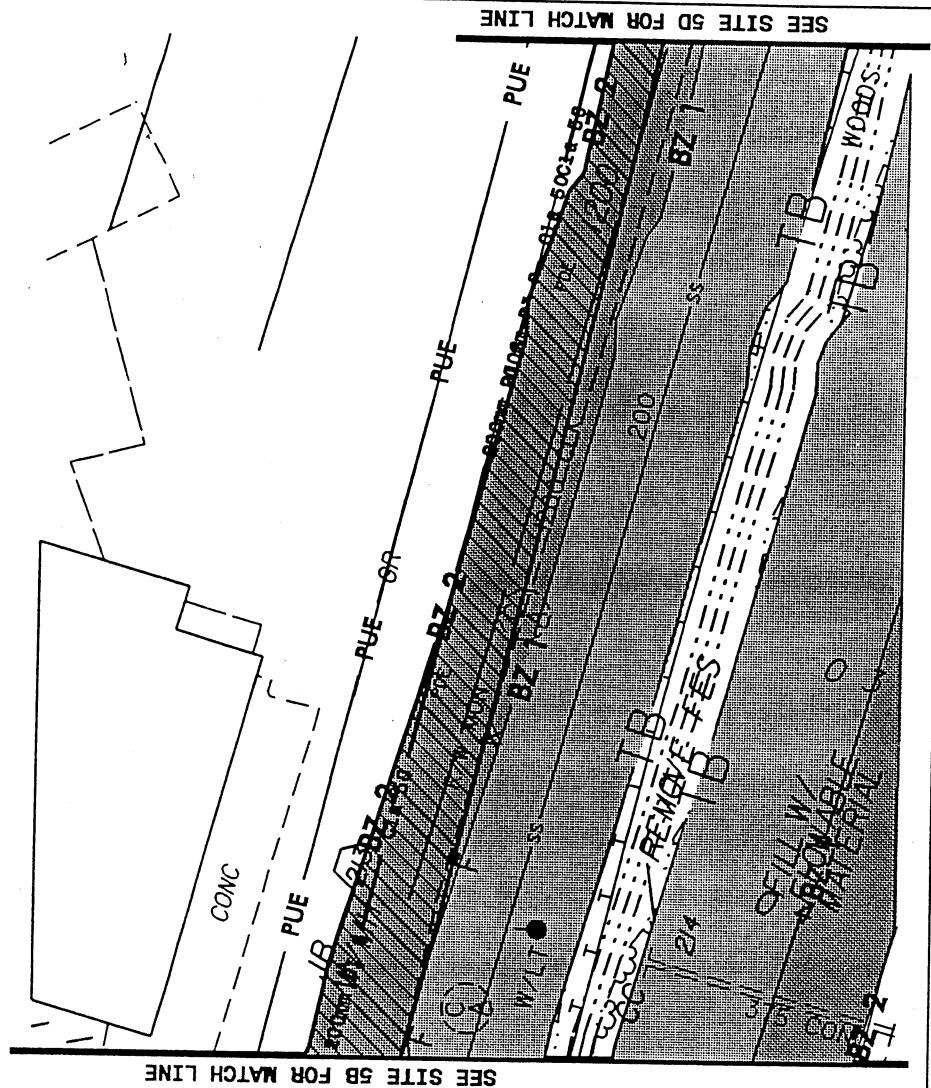
PROJECT: 8.1414801, (I-0306C)  
I-85 FROM EAST OF US 15/501  
TO WEST OF BROAD STREET

SHEET 7 OF 14

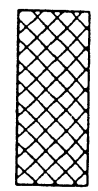


Scale 500:1

### PLAN VIEW SITE 4C BUFFER ZONE IMPACTS

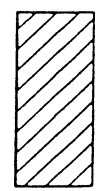


LOCATION RANGE, LEFT OF LINE -LREV-  
FROM STA. 24+460 TO STA. 24+726



PERMANENT IMPACTS  
ZONE 1

Length=0.00 ft  
Area=0.00 ft<sup>2</sup>



PERMANENT IMPACTS  
ZONE 2

Length=228.13 ft  
Area=3615.48 ft<sup>2</sup>

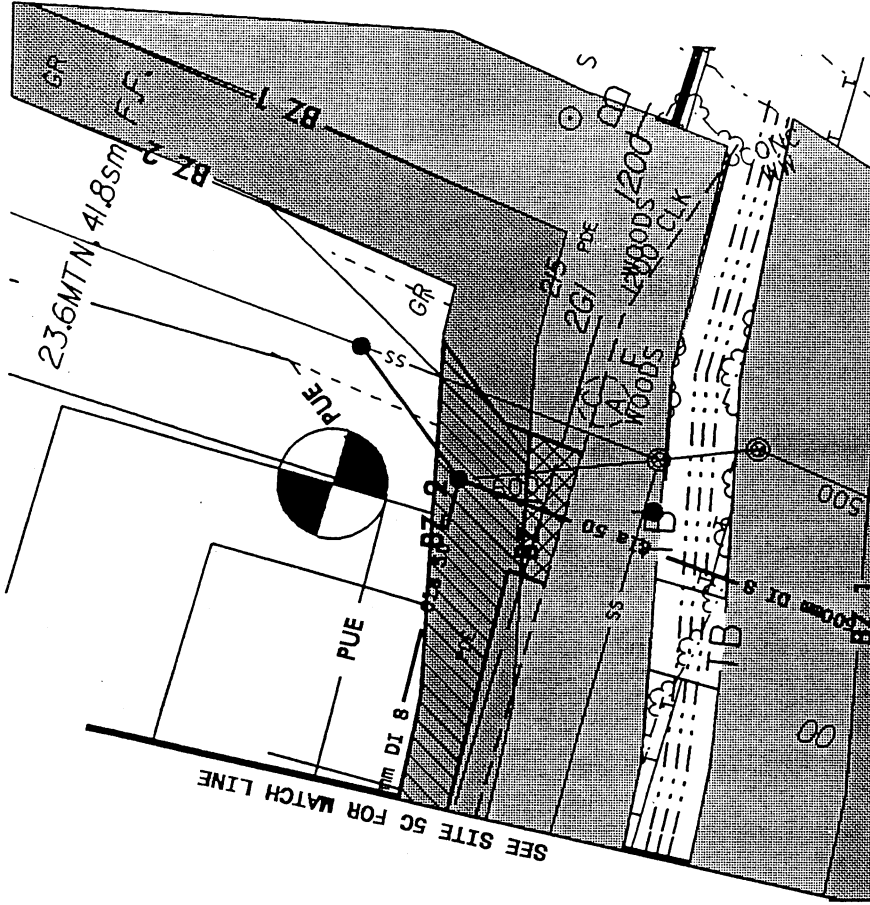
N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DURHAM COUNTY

PROJECT: 8.1414801, (I-0306C)  
I-85 FROM EAST OF US 15/501  
TO WEST OF BROAD STREET

SHEET 8 OF 14

**PLAN VIEW  
SITE 4D  
BUFFER ZONE  
IMPACTS**

Scale 500:1



**LOCATION RANGE, LEFT OF LINE - LREV -  
FROM STA. 24+460 TO STA. 24+726**

 **PERMANENT IMPACTS  
ZONE 1**

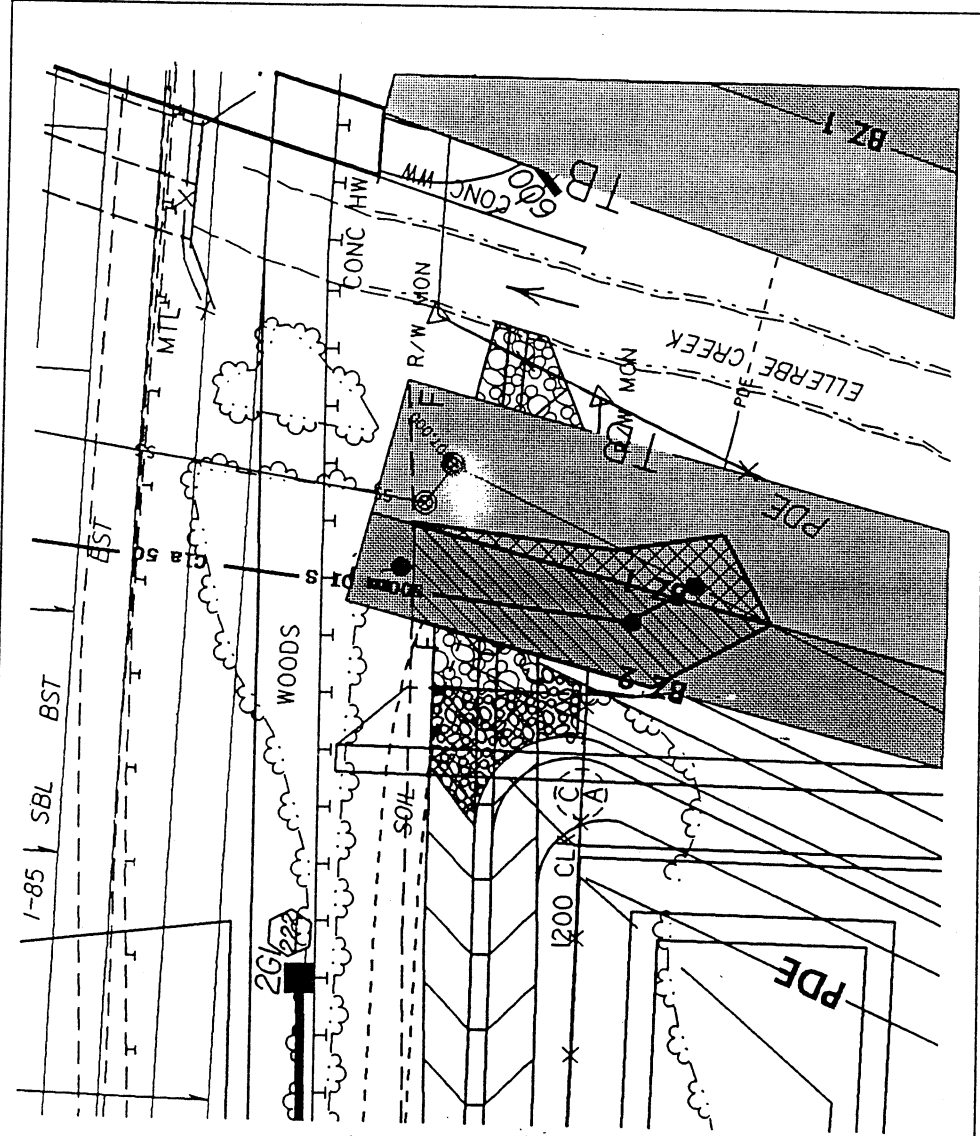
Length=8.79 ft  
Area=261.36 ft<sup>2</sup>

 **PERMANENT IMPACTS  
ZONE 2**

Length=99.77 ft  
Area=1437.48 ft<sup>2</sup>

**N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DURHAM COUNTY**

**PROJECT: 8.1414801, (I-0306C)  
I-85 FROM EAST OF US 15/501  
TO WEST OF BROAD STREET  
SHEET 9 OF 14**



Scale 500:1

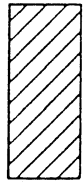
PLAN VIEW  
SITE 5  
BUFFER ZONE  
IMPACTS

LOCATION, RIGHT OF STA. 24+726 LINE - LREV -



PERMANENT IMPACTS  
ZONE 1

Length=68.15 ft  
Area=522.72 ft<sup>2</sup>



PERMANENT IMPACTS  
ZONE 2

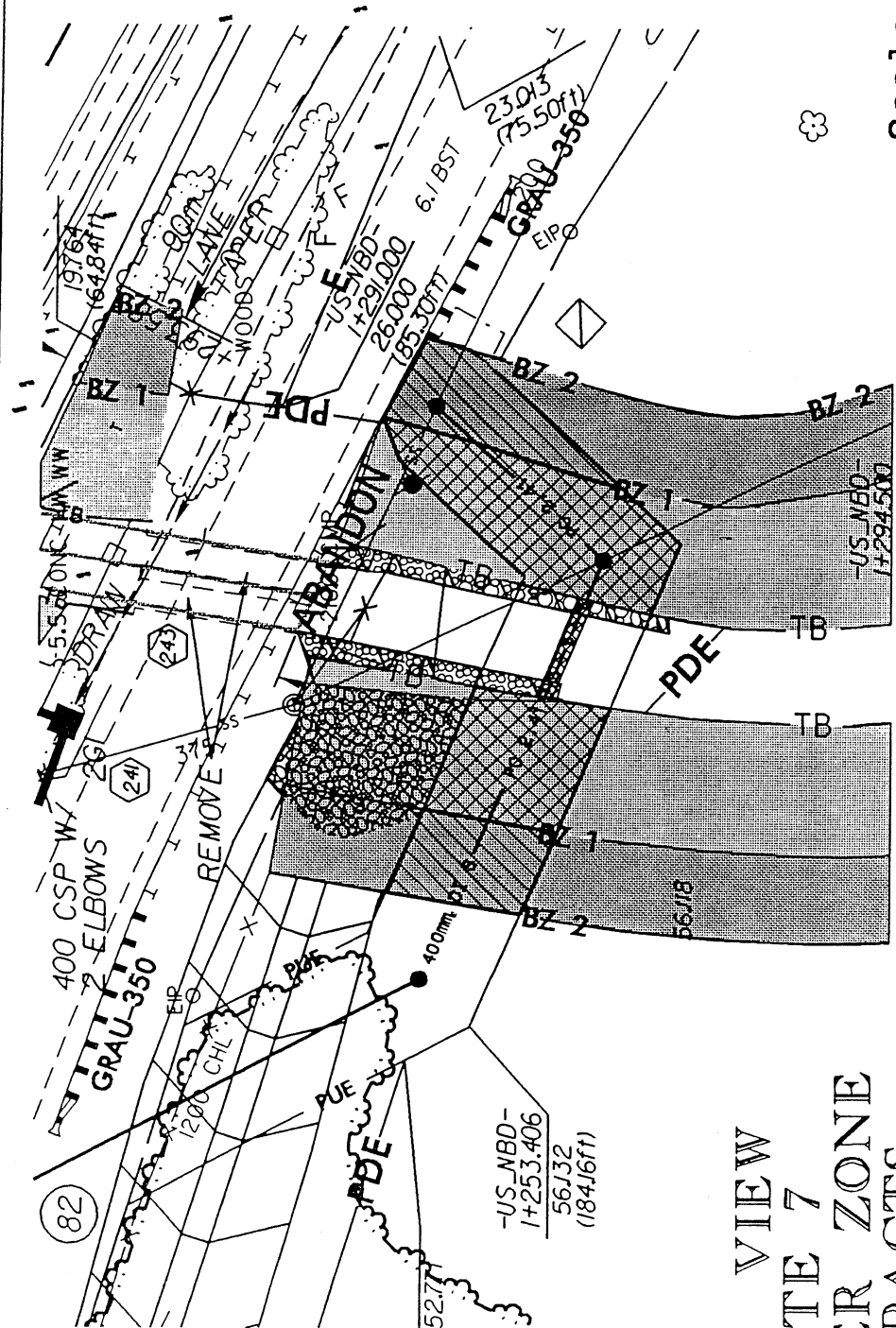
Length=72.18 ft  
Area=1350.36 ft<sup>2</sup>

N. C. DEPT. OF TRANSPORTATION  
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DURHAM COUNTY

PROJECT: 8.1414801, (I-0306C)  
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TO WEST OF BROAD STREET  
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Scale 500:1



PLAN VIEW  
SITE 7  
BUFFER ZONE  
IMPACTS

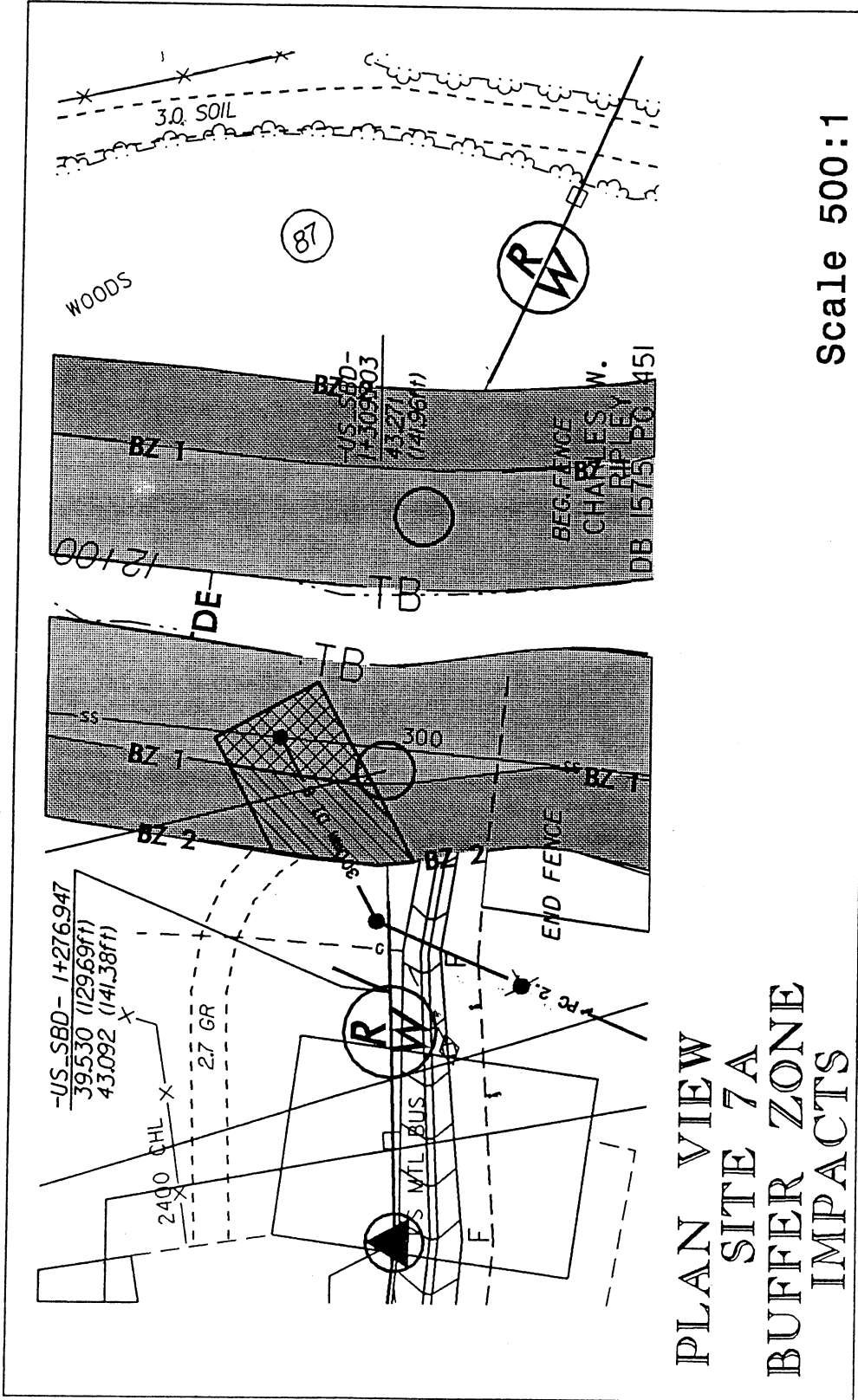
LOCATION, RIGHT OF STA. 1+260 LINE -US\_NBD-

	STREAM IMPACT	Length=24.61 ft Area=82.42 ft <sup>2</sup>
	PERMANENT IMPACTS ZONE 1	Length=80.02 ft Area=2308.68 ft <sup>2</sup>
	PERMANENT IMPACTS ZONE 2	Length=22.44 ft Area=1306.80 ft <sup>2</sup>

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PLAN VIEW  
SITE 7A  
BUFFER ZONE  
IMPACTS

Scale 500:1

LOCATION, LEFT OF STA. 1+260 LINE -US\_NBD-

 PERMANENT IMPACTS ZONE 1

Length=18.90 ft  
Area=566.28 ft<sup>2</sup>

 PERMANENT IMPACTS ZONE 2

Length=24.28 ft  
Area=740.52 ft<sup>2</sup>

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TOTAL PERMANENT IMPACTS IN  
BUFFER ZONE 1

Area=6882.48 ft<sup>2</sup>

TOTAL PERMANENT IMPACTS IN  
BUFFER ZONE 2

Area=17,162.64 ft<sup>2</sup>

TOTAL STREAM IMPACT

Area=82.42 ft<sup>2</sup>

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PROJECT: 8.1414801, (I-0306C)  
I-85 FROM EAST OF US 15/501  
TO WEST OF BROAD STREET

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**BUFFER IMPACTS SUMMARY**

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	PERMANENT IMPACTS			WETLANDS IN BUFFER			BUFFER REPLACEMENT		
			ZONE 1 (sq ft)	ZONE 2 (sq ft)	TOTAL (sq ft)	LINEAR (ft)	ZONE 1 (Ac)	ZONE 2 (Ac)	ZONE 1 (Ac)	ZONE 2 (Ac)	
1	2 @ 2.1 x 2.1 RCB	22+380/22+520-L-	2265.12	1742.40	4007.52	33,342	0.000	0.000	0.000	0.000	
2	1200mm RCP	23+287 -L-	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.000	
3	1050mm RCP	23+680 -L-	4094.64	2700.72	6795.36	51,865	0.000	0.000	0.000	0.000	
4	1200mm RCP	24+460/24+740-L-	49484.16	5052.96	54537.12	777,970	0.000	0.000	0.000	0.000	
5	2 @ 3.7 x 3.0 RCB	24+720/24+737-L-	1524.60	958.32	2482.92	38,775	0.000	0.000	0.000	0.000	
6	NOT ON SOILS MAP OR USGS TOPO MAP			0.00	0.00	0.000	0.000	0.000	0.000	0.000	
7	2 @ 2.4 x 2.7 RCB	1+269 -USNBD-	7623.00	4617.36	12240.36	159,546	0.000	0.000	0.000	0.000	
<b>TOTAL:</b>			64991.52	15071.76	80063.28	1061.50	0	0	0	0	

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

DURHAM COUNTY  
PROJECT: 8.1414801 (I-306C)

November 29, 2001  
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