



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE
GOVERNOR

EUGENE CONTI
SECRETARY

March 11, 2011

MEMORANDUM TO: Mr. Mike Mills, PE
Division 7 Engineer

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

SUBJECT: Rockingham County, Widening of US 29 Business from SR 2670
to NC 14 in Reidsville; Federal Aid Project No. STP-29B(1); State
Project 8.1511901; WBS Element 34924.1.1.
T.I.P. U-3326 A and B

Attached is the U.S. Army Corps of Engineers Section 404 Individual Permit, N.C. Division of Water Quality (NCDWQ) Section 401 Water Quality Certification, and NCDWQ Letter of Correction for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

PSH/ell

Cc:

Mr. Randy Garris, P.E. State Contract Officer
Mr. Jerry Parker, Division Environ. Officer
Mr. Majed Alghandour, P. E., Program. and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Art McMillan, P.E., Highway Design
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Ron Hancock, P.E., State Roadway
Construction Engineer

Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, NCDOT External Audit
Branch
Ms. Karen Reynolds, P.E., PDEA Engineer:
Mr. Eric Midkiff, P.E., PDEA Central Region
Unit Head

PROJECT COMMITMENTS

Rockingham County
Widening of U.S. 29 Business (Freeway Drive) from SR 2670
(South Scales Street) to NC 14 in Reidsville
State Project No. 8.1511901
Federal Aid Project No. STP-29B (1)
WBS Element No. 34924.1.1
TIP No. U-3326 A and B

COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN

Hydraulic Design Unit

The proposed widening project is mostly within existing right-of-way and involves the extension of box culverts at three major stream crossings. One of these box culverts is located at a stream crossing within a floodplain. The anticipated results or limits of expected impacts to the floodplain are minimal. The Hydraulics' Unit will coordinate with the Federal Emergency Management Agency (FEMA) and local authorities, during the final design stage, to ensure compliance with applicable floodplain ordinances.

Hazardous spill basins will be required at all stream crossings from the intersection of US 29 Business (Freeway Drive) with SR 2670 (South Scales Street) to the intersection of Freeway Drive with SR 2500 (Lawndale Drive).

Roadway Design Unit, Program Development Branch

The Roadway Design Unit will coordinate with the City of Reidsville in the design of a sidewalk proposed along the eastern edge of US 29 Business (Freeway Drive). The sidewalk will be five feet in width. The sidewalk will begin on the northern side of the Lawndale Drive (SR 2500) intersection and will terminate at the intersection of Vance Street (SR 2525). The North Carolina Department of Transportation (NCDOT) will share eighty percent of the construction cost of the sidewalk and the City of Reidsville will share twenty percent of the construction costs. Any additional right-of-way (ROW) necessary to complete the sidewalk will be funded by the City of Reidsville.

As approved by the Rockingham County Board of Education on February 13, 2006, permanent ROW will be purchased from the Moss Street Elementary School property, along Moss Street, in order to construct the project. No ROW, including temporary or permanent easements, will be purchased from or encroach onto the Moss Street Elementary School property along US 29 Business (Freeway Drive). The Moss Street Elementary School fence, along Freeway Drive, will be reinstalled upon completion of this widening project. Should the Moss Street Elementary School sign be impacted due to construction, it will be reinstalled as part of this widening project.

Natural Environment Unit

NCDOT will report the biological conclusion for the Roanoke logperch in the construction consultation for this project, since the environmental survey results are still pending.

Action Taken. NCDOT biologists conducted fish surveys within the project study area on May 1, 2008. As a result of these surveys and a review of GIS and N.C. Natural Heritage Program (NCNHP) data, it appears that the Roanoke logperch does not exist in the project vicinity. The unnamed tributaries of Wolf Island Creek and Wolf Island Creek are comparatively smaller than other waterways where the Roanoke logperch are known to live. Furthermore, the project study area is over 37 miles away from the closest known population of the Roanoke logperch in North Carolina. Therefore, the Biological Conclusion for the Roanoke logperch is **No Effect**.

NCDOT will re-survey for smooth coneflower between May 2009 and October 2009.

Action Taken. A re-survey was conducted by NCDOT biologists on July 13, 2009. Habitat was present on roadsides and power line and gas line ROWs. However, much of the utility lines were sprayed with herbicide and much of the project contained no habitat. No individuals or typical associate species were observed. A review of the NCNHP database revealed no known occurrences of this species within 1.0 mile of the study area. Therefore, a Biological Conclusion of **No Effect** has been rendered for this species.

COMMITMENTS DEVELOPED DURING PERMITTING

Hydraulics Unit, Division 7

Section 401 Water Quality Certification (WQC), Condition No. 3

NCDOT shall design, construct, and operate and maintain hazardous spill catch basins (HSCBs) at the sole stream crossing within the WS CA watershed. The HSCBs shall be located at Station numbers -L- Station 33+60 to 34+50 Lt.

Action Taken: Condition noted.

Natural Environment Unit

Section 401 WQC, Condition No. 4

Modifications to this permit will be subject to Jordan Lake Buffer Rules as described in 15A NCAC 02B .0268 and DWQ's Intermittent Stream Policy effective October 16, 2009.

Action Taken. Condition noted.

Section 401 WQC, Condition No. 5

Compensatory mitigation for 406 linear feet of impact to streams in the Cape Fear River Basin and 920 linear feet of impact to streams in the Roanoke River Basin are required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 11, 2010 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

Action Taken. *In a letter dated May 11, 2010, EEP agreed to provide, in accordance with the Tri-Party MOA fully executed on March 8, 2007, compensatory stream mitigation for the unavoidable impacts associated with the subject project. Per a condition in the U.S. Army Corps of Engineers (USACE) Individual Permit (Permit No. SAW-2004-20400), EEP issued a subsequent letter, dated February 24, 2011, that reiterated their agreement to provide compensatory stream mitigation for the project; however, the mitigation was now in compliance with the EEP In-Lieu Fee Instrument approved July 28, 2010.*

Section 401 WQC, Condition No. 9

For the 493 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and re-vegetated with appropriate native species.

Action Taken. *Condition noted.*

Section 404 Individual Permit, Condition o

Compensatory mitigation for impacts to 854 linear feet of stream associated with the proposed project shall be provided by the North Carolina Ecosystem Enhancement Program (NCEEP), sufficient to perform the restoration of 1,070 linear feet of warm water stream in the Cape Fear River Basin, Cataloging Unit 03030002. Additionally, compensatory mitigation for impacts to 1,756 linear feet of stream associated with the proposed project shall be provided by the NCEEP, sufficient to perform the restoration of 2,876 linear feet of warm water stream in the Roanoke River Basin, Cataloging Unit (03010103). NCEEP shall become responsible for providing the required mitigation only after the Corps has received written confirmation from NCEEP stating that they agree to accept responsibility for the mitigation work required, in compliance with the NCEEP In-Lieu Fee Instrument, approved by the United States Army Corps of Engineers, Wilmington District on July, 28, 2010. Until the Corps receives this confirmation letter from NCEEP, NCDOT remains responsible for this mitigation requirement. If the Corps has not received a confirmation from NCEEP within 150 days of the date of this verification, NCDOT shall provide plans to accomplish the required mitigation to the Corps of Engineers within 210 days of the date of this verification.

Action Taken. *In a letter dated May 11, 2010, EEP agreed to provide, in accordance with the Tri-Party MOA fully executed on March 8, 2007, compensatory stream mitigation for the unavoidable impacts associated with the subject project. Per the above condition from the USACE Individual Permit, EEP issued a subsequent letter, dated February 24, 2011, that reiterated their agreement to provide compensatory stream mitigation for the project; however, the mitigation was now in compliance with the EEP In-Lieu Fee Instrument approved July 28, 2010.*



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

February 7, 2011

RECEIVED

FEB 14 2011

Regulatory Division

Action ID: SAW-2004-20400⁵

RALEIGH REGULATORY FIELD OFFICE

Mr. Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
NC Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

In accordance with your written request of August 14, 2010, including the revisions submitted on December 9, 2010, and the ensuing administrative record, enclosed is a copy of a permit to authorize the proposed permanent placement of fill material into 2,610 linear feet of jurisdictional stream channels and 0.001 acre of adjacent riparian Wetlands. Also included within the permit is the temporary placement of fill material within 493 linear feet of jurisdictional stream channels and 0.006 acre of adjacent riparian wetlands. These impacts are associated with the proposed widening and improvement of 6.7 miles of US 29 Business (Freeway Drive) from SR 2670 (south Scales Street) to NC 14 in Reidsville, Rockingham County, North Carolina. This project is referred to as Transportation Improvement Project (TIP) U-3326AB. Section A of this project begins at South Scales Street and Terminates at US 158 (Richardson Drive) and Section B begins at Richardson Drive and ends at NC 14.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your permit has been modified.

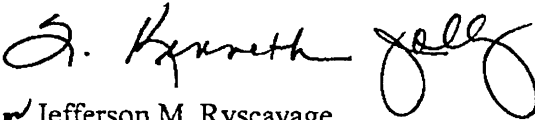
Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 201⁵~~1~~.
- 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 Mr. Andrew Williams at the Raleigh Regulatory Field Office, telephone (919) 554-4884 extension 26.

Sincerely,


for Jefferson M. Ryscavage
Colonel, U.S. Army
District Commander

Enclosures

Copies Furnished (with enclosures):

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

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

Copies Furnished with special conditions
and plans:

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

Mr. Doug Huggett
Division of Coastal Management
N.C. Department of Environment
and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557

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

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

DEPARTMENT OF THE ARMY PERMIT

Permittee: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Permit No: SAW-2004-20400

Issuing Office: USAED, WILMINGTON

RECEIVED

FEB 02 2011

REG. WILM. FLD. OFC.

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 the office acting under the authority of the commanding officer.

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

Project Description: The project, identified as U-3326AB, consists of widening U.S. Business 29 (Freeway Drive) from SR 2670 (South Scales Street) northward to NC 14 in Reidsville, Rockingham County, North Carolina. The total length of the project is 6.7 miles. Section U-3326A is 2.0 miles in length and begins at SR 2670 (South Scales Street) and ends at US 158 (Richardson Drive). Section U-3326B is 4.7 miles in length and begins at US 158 and ends at NC 14. The roadway cross-section consists of two 12-foot travel lanes in each direction, and a raised 17.5-foot wide curb and guttered median. Section A will have 8 foot shoulders, four feet of which is paved. Section B will have an outside curb and gutter. Total permanent impacts for the construction of this project are 2,610 linear feet of stream channel and 0.001 acre of riparian wetlands. Total temporary impacts are 493 linear feet of stream channel and 0.006 acre of riparian wetlands. 854 linear feet of permanent stream channel impacts, 188 linear feet of temporary stream channel impacts, 0.001 acre of permanent adjacent wetlands impacts, and 0.002 acre of temporary adjacent wetlands impacts are within the Cape Fear River basin (Hydrologic Categorical Unit 03030002). 1,756 linear feet of permanent stream channel impacts, 305 linear feet of temporary stream channel impacts and 0.004 acre of temporary adjacent wetlands impacts are within the Roanoke River Basin (Hydrologic Categorical Unit 03010103). The applicant will mitigate for unavoidable impacts to streams by providing payment into the North Carolina Ecosystem Enhancement Program (NCEEP) for 3,946 Warm Stream Mitigation Units. 1,070 mitigation units will be purchased within the Cape Fear River Basin (Cataloging Unit 03030002) and 2,876 mitigation units will be purchased within the Roanoke River Basin (Cataloging Unit 03010103).

Project Location: The project, identified as U-3326AB, begins at the existing SR 2670 (South Scales Street) and extends approximately 6.7 miles northward to NC 14 in Reidsville, Rockingham County, North Carolina. Coordinates (in decimal degrees) for the site are 36.3579° N, -79.6894° W (NAD83/WGS84). The site contains a portion of Little Troublesome Creek, one (1) unnamed tributary to Little Troublesome Creek, three (3) unnamed tributaries to Troublesome Creek-Lake Reidsville and two (2) adjacent wetland areas, in the Cape Fear River Basin (8-Digit Cataloging Unit 03030002). Additionally, the site contains thirteen (13) unnamed tributaries to Wolf Island Creek, and one (1) adjacent wetland in the Roanoke River Basin (8-Digit Cataloging Unit 03010103). Little Troublesome Creek and Troublesome Creek flow to the Haw River which flows to the Cape Fear River, a navigable water of the United States. Wolf Island Creek flows to the Dan River which flows to the Roanoke River, a navigable water of the United States.

Permit Conditions:

General Conditions:

1. The time Limit for completing the work authorized ends on December 31, 2015. 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 Conditions 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 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).
 - (X) Section 404 of the clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United states in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - 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 mad 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 33CFR 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 measure 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.

E. L. Lusk for Gregory J. Thayer, PhD 1.27.11
(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.

J. Kenneth Jolly 2-1-11
(DISTRICT ENGINEER) JEFFERSON M. RYSCAVAGE, 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.

(TRANSFEEE)

(Date)

SPECIAL CONDITIONS
Action ID. SAW-2004-20400
North Carolina Department of Transportation - TIP U-3326AB

Work Limits

- a) All work authorized by this permit must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.
- 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. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.
- c) 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 waters or wetlands or to reduce the reach of waters or wetlands.
- d) Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

Related Laws

- 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. 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) 807-6300, or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

Project Maintenance

- f) The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.
- 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.

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North Carolina Department of Transportation - TIP U-3326AB

- 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. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project
- i) The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
- j) The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

Enforcement

- k) Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

Culverts

- l) All authorized culverts will be installed to allow the passage of low stream flows and the continued movement of fish and other aquatic life as well as to prevent headcutting of the streambed. For all box culverts and for pipes greater than 48 inches in diameter, the bottom of the pipe will be buried at least one foot below the bed of the stream unless burial would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, the bottom of the pipe must be buried below the

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bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to, upstream or downstream of the structures. In order to allow for the continued movement of bed load and aquatic organisms, existing stream channel widths and depths will be maintained at the inlet and outlet ends of culverts. Riprap armoring of streams at culvert inlets and outlets shall be minimized above the ordinary high water elevation in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted, woody plants.

Preconstruction Meeting

- m) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Raleigh Regulatory Field Office, 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, Raleigh Regulatory Field Office, 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

- n) 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

SPECIAL CONDITIONS
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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 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 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

- o) Compensatory mitigation for impacts to 854 linear feet of stream associated with the proposed project shall be provided by the North Carolina Ecosystem Enhancement Program (NCEEP), sufficient to perform the restoration of 1,070 linear feet of warm water stream in the Cape Fear River Basin, Cataloging Unit 03030002. Additionally, compensatory mitigation for impacts to 1,756 linear feet of stream associated with the proposed project shall be provided by the NCEEP, sufficient to perform the restoration of 2,876 linear feet of warm water stream in the Roanoke River Basin, Cataloging Unit 03010103. NCEEP shall become responsible for providing the required mitigation only after the Corps has received written confirmation from NCEEP stating that they agree to accept responsibility for the mitigation work required, in compliance with the NCEEP In-Lieu Fee Instrument, approved by the United States Army Corps of Engineers, Wilmington District on July, 28, 2010. Until the Corps receives this confirmation letter from NCEEP, NCDOT remains responsible for this mitigation requirement. If the Corps has not received a confirmation from NCEEP within 150 days of the date of this verification, NCDOT shall provide plans to accomplish the required mitigation to the Corps of Engineers within 210 days of the date of this verification.



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

December 9, 2010

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

DEC 13 2010

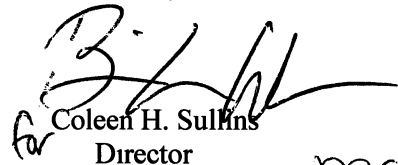
Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for Proposed widening of US 29 Business (Freeway Drive) from SR 2670 (South Scales Street) to NC 14 in Reidsville, Rockingham County, Division 7 Federal Aid Project No. STP-29B (1), State Project No. 8.1511901, WBS Element No. 34924.1.1, TIP U-3326 A and B. DWQ project no. 20100747.

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 003843 issued to The North Carolina Department of Transportation (NCDOT) dated December 9, 2010.

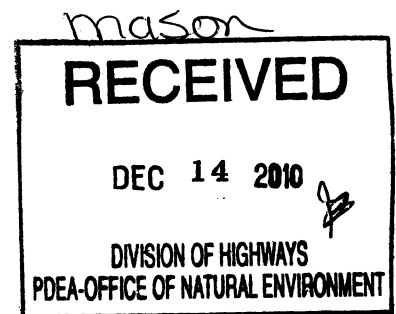
If we can be of further assistance, do not hesitate to contact us.

Sincerely,


Coleen H. Sullins
Director

Attachments

- cc: Andy Williams, US Army Corps of Engineers, Raleigh Field Office
- Mike Mills, PE, Division 7 Engineer
- Jerry Parker, Division 7 Environmental Officer
- Chris Militscher, Environmental Protection Agency
- Travis Wilson, NC Wildlife Resources Commission
- Beth Harmon, Ecosystem Enhancement Program
- Wetlands/401 Transportation Permitting Unit
- File Copy



**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (NCDWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact less than 0.01 acres of jurisdictional wetlands and 3103 linear feet of jurisdictional streams in Rockingham County. The project shall be constructed pursuant to the application dated received September 9, 2010, with additional information dated received December 2, 2010. The authorized impacts are as described below.

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1			97	67	164	0
1a	43				43	0
2	71	12			83	0
3	51				51	0
4	114	18			132	0
5			406	64	470	406
6			72	27	99	0
Total	279	30	575	158	1,042	406

Total Stream Impact for Project in the Cape Fear River Basin: 1,042 linear feet

Stream Impacts in the Roanoke River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
7			212	7	219	212
8	56	31			87	0
9			117	20	137	0
10			161	56	217	161
11			75	11	86	0
12			175	33	208	175
13	194	21			215	0
14	165	12			177	0
15a	66	7			73	0
15b			207	17	224	207
15c	90				90	0
16	4	10			14	0
17			95	38	133	0
18			139	42	181	0
Total	575	81	1,181	224	2,061	755

Total Stream Impact for Project in the Roanoke River Basin: 2,061 linear feet

Wetland Impacts in the Cape Fear and Roanoke River Basins

Site	Fill (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)	River Basin
6	0.001	0.002	0.003	Cape Fear
9	0	0.004	0.004	Roanoke
Total	0.001	0.006	0.007	

Total Wetland Impact for Project: 0.007 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the **Cape Fear and Roanoke River Basins** 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 September 9, 2010, with additional information dated received December 2, 2010. Should your project change, you are required to notify the NCDWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

Project Specific Conditions

1. Culvert extensions are not required to be buried unless existing culverts are embedded or the entire culvert is replaced. For all other culverts, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
2. The NCDOT Division Environmental Officer will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWQ staff shall be invited to the pre-construction meeting.
3. NCDOT shall design, construct, and operate and maintain hazardous spill catch basins (HSCBs) at the sole stream crossing within the WS CA watershed. The HSCBs shall be located at Station numbers -L- Station 33+60 to 34+50 Lt.
4. Modifications to this permit will be subject to Jordan Lake Buffer Rules as described in 15A NCAC 02B .0268 and DWQ's Intermittent Stream Policy effective October 16, 2009

- 5 Compensatory mitigation for 406 linear feet of impact to streams in the Cape Fear River Basin and 755 linear feet of impact to streams in the Roanoke River Basin are required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 11, 2010 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.
6. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
- 7 Channel relocations shall be completed and stabilized, and approved on site by DWQ staff, prior to diverting water into the new channel. Stream banks shall be matted with coir-fiber matting. Vegetation used for bank stabilization shall be limited to native riparian vegetation, and should include establishment of a vegetated buffer on both sides of the relocated channel to the maximum extent practical. Also, any rip-rap that is shown in the permit is considered allowable. If additional rip-rap is necessary to maintain the physical integrity of the stream, the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.
8. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
- 9 For the 493 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species.
10. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species.
11. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery
12. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.

General Project Conditions

13. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
14. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
15. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.
16. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.
- 17 The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.
18. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

- 19 Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
20. 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.
21. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
22. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
- 23 The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law If NCDWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, NCDWQ may reevaluate and modify this certification.
24. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3 1, unless otherwise authorized by this certification.
25. A copy of this Water Quality Certification shall be maintained 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.
26. 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.
- 27 The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
28. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify NCDWQ when all work included in the 401 Certification has been completed.
- 29 There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
30. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.
31. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

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 you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-733-2698, Facsimile: (919)-733-3478

A copy of the petition must also be served on DENR as follows:

Ms. Mary Penny Thompson, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This the 9th day of December 2010

DIVISION OF WATER QUALITY

A handwritten signature in black ink, appearing to read 'B. H. Sullins', with a long horizontal flourish extending to the right.

for Coleen H. Sullins
Director

WQC No. 003843

NCDWQ Project No.: _____

County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

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

Applicant's Certification

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

Signature: _____ Date: _____

Agent's Certification

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

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

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

Signature _____ Registration No. _____

Date _____



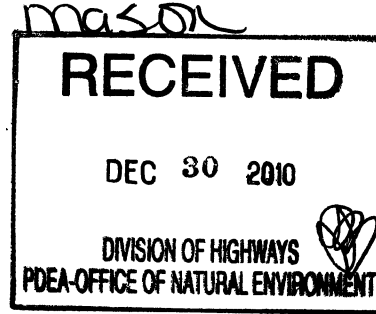
North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

December 22, 2010



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

Subject: Correction to 401 Water Quality Certification No. 3843, NCDWQ Project No. 20100747. TIP U-3326 A and B

Dear Dr. Thorpe:

This letter is in regards to the Individual Water Quality Certification No. 3843 issued December 9, 2010. Please note the changes to site 14 in the stream impact table for the Roanoke River Basin and to condition 5

Stream Impacts in the Roanoke River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
7			212	7	219	212
8	56	31			87	0
9			117	20	137	0
10			161	56	217	161
11			75	11	86	0
12			175	33	208	175
13	194	21			215	0
14			165	12	177	165
15a	66	7			73	0
15b			207	17	224	207
15c	90				90	0
16	4	10			14	0
17			95	38	133	0
18			139	42	181	0
Total	575	81	1181	224	2061	920

5 Compensatory mitigation for 406 linear feet of impact to streams in the Cape Fear River Basin and 920 linear feet of impact to streams in the Roanoke River Basin are required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 11, 2010 that they will assume responsibility for

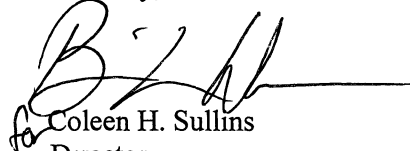
Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: <http://h2o.enr.state.nc.us/ncwetlands/>



satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

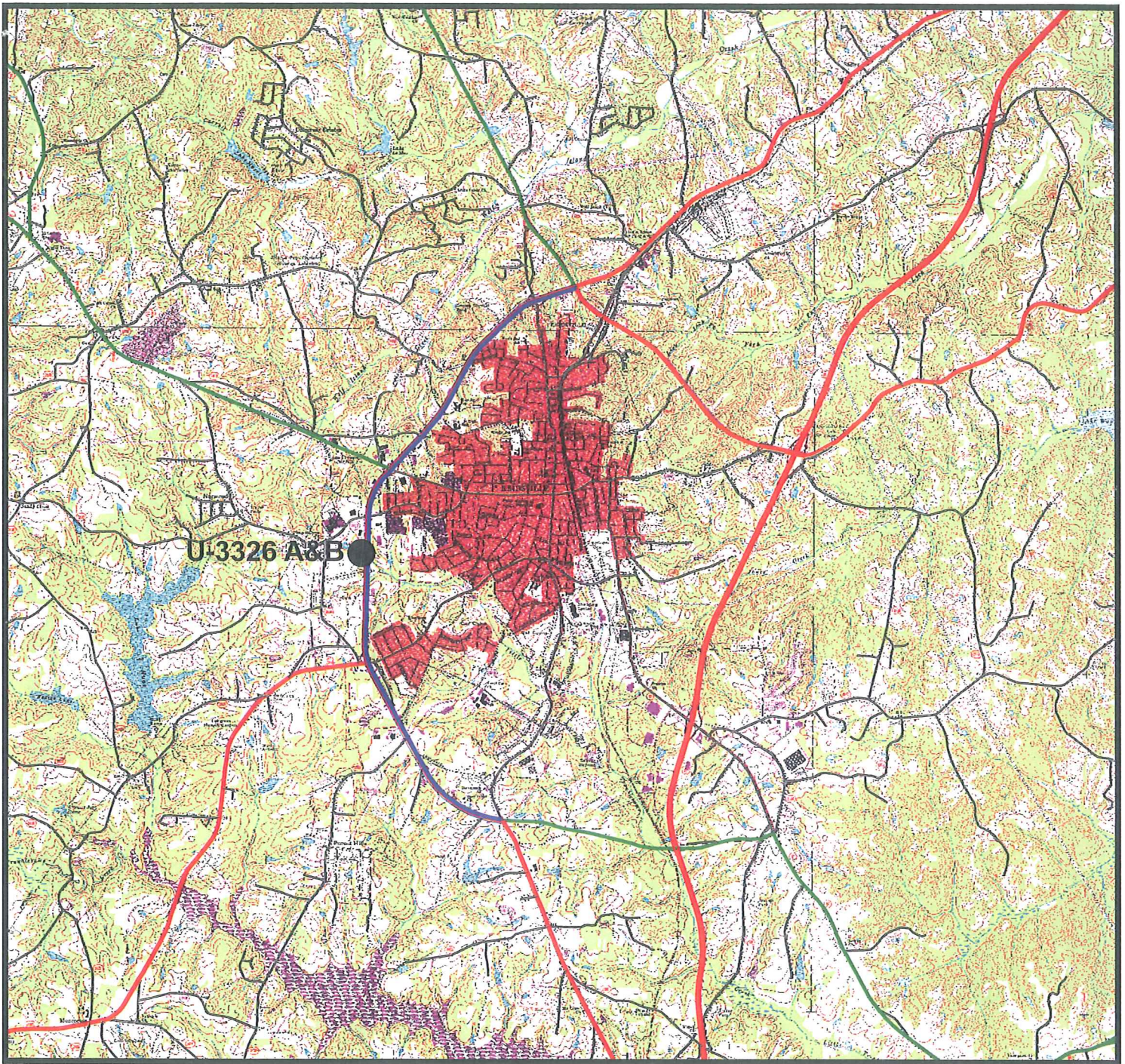
Please keep a copy of this letter with the original certification. If we can be of further assistance, do not hesitate to contact us.

Sincerely,



Coleen H. Sullins
Director

cc: Andy Williams, US Army Corps of Engineers, Raleigh Field Office
Mike Mills, PE, Division 7 Engineer
Jerry Parker, Division 7 Environmental Officer
Chris Militscher, Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission
Beth Harmon, Ecosystem Enhancement Program
Wetlands/401 Transportation Permitting Unit
File Copy



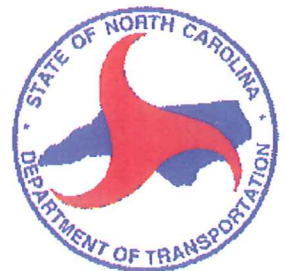
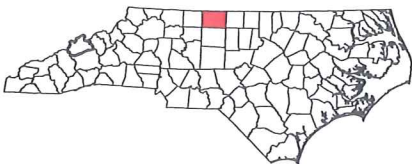
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TIP U-3326 A&B

Road Widening of US 29 Business to a Multi-Lane Facility from SR 2670 (South Scales Street) to NC 14 Rockingham County



Site No.	Parcel No.	Property Owner Name	Property Owner Address
1	3	Richard W. Wikle & wife Claudine P. Wikle	911 Oakcrest Drive, Reidsville, NC 27320
	5	Claudine P. Wikle	911 Oakcrest Drive, Reidsville, NC 27320
	6	Holy Infant Catholic Church	P.O. Box 1197, Reidsville, NC 27323
1A	5	Claudine P. Wikle	911 Oakcrest Drive, Reidsville, NC 27320
2	36	B & S Services, Inc. of NC	P.O. Box 567, Reidsville, NC 27323
3	43	Hugh W. Cobb & wife Judith T. Cobb	1309 Ridgewood Ave., Reidsville, NC 27320
	44	North Carolina Farm Credit, ACA	P.O. Box 1827, Statesville, NC 28687
4	46	Elizabeth Hobbs Hux & husband Kenneth Jefferson Hux	1422 Freeway Drive, Reidsville, NC 27320
	47	Rendal Clayton Putnam & wife Cynthia Gentry Putnam	2403 Pine Lane, Reidsville, NC 27320
5	71	Danny W. Trent	1561 Freeway Drive, Reidsville, NC 27320
	72	Charles W. Trent, Jr., & wife Betty P. Trent	2623 Reid School Rd., Reidsville, NC 27320
	73	Stephen E. Smith	580 Boyd Rd., Reidsville, NC 27320
6	73	Stephen E. Smith	580 Boyd Rd., Reidsville, NC 27320
	75	State Employees' Credit Union	P.O. Box 26807, Raleigh, NC 27611
	76	Reidsville Centre, LLC	364 Lowes Drive, Suite Q, Danville, VA 24540
7	88	Nellie K. Loftis Crouch	
8	101	Cardinal Holdings, LLC	P.O. Box 2883, Reidsville, NC 27323
	170	James K. Festerman & Priscilla Festerman	1201 Benton Lane, Reidsville, NC 27320
	105	Adola Investments, LLC	1828 Trentwood Circle, Reidsville, NC 27320
	104	William Harmon, Judy Harmon, et al	1267 Towncreek Rd., Eden, NC 27288
9	106	Jared Russell Cox	1509 Independence Rd., Greensboro, NC 27408
	103	Smothers Warehouse, Inc.	1007 Oakcrest Drive, Reidsville, NC 27320

List of Property Owners

NC Dept. of Transportation
Division of Highways
Rockingham County
WBS - 34924.1.1 (U-3326A/B)

Site No.	Parcel No.	Property Owner Name	Property Owner Address
10	114	Irving K. Bass & wife Mae P. Bass	817 Hilltop Blvd., Reidsville, NC 27320
	113	Carol Ann Adams	1502 Rosedale Blvd., Reidsville, NC 27320
	115	Scott Cook, LLC	2019 Freeway Drive, Reidsville, NC 27320
11	114	Irving K. Bass & wife Mae P. Bass	817 Hilltop Blvd., Reidsville, NC 27320
12	122	Reidsville Insurance Company	1206 Cypress Drive, Reidsville, NC 27320
	123	Veita J. Bland	1317 N. Elm Street, Ste 7, Greensboro, NC 27401
13	123	Veita J. Bland	1317 N. Elm Street, Ste 7, Greensboro, NC 27401 P.O. Box 98, Eden, NC 27289
		Robert G. Simyon	
14	141	Pauline R. Tillotson	230 West Morehead Street, Reidsville, NC 27320 P.O. Box 1106, Reidsville, NC 27323 P.O. Box 2363, Reidsville, NC 27323
	140	City of Reidsville, A Municipal Corp.	
	142	Ronald E. Harris & wife Barbara W. Harris	
	139	Barbara C. Loy	
15	139	Barbara C. Loy	P.O. Box 2363, Reidsville, NC 27323
	141	Pauline R. Tillotson	P.O. Box 1106, Reidsville, NC 27323
	142	Ronald E. Harris & wife Barbara W. Harris	
16	144	Tank Land, A North Carolina General Partnership	P.O. Box 660, Reidsville, NC 27323
17	160	Lowe's Home Centers, Inc.	P.O. Box 1000-2ETA, Mooresville, NC 28115
	161	Lima Holdings, LLC	P.O. Box 843, Wilkesboro, NC 28697
18	163	Michael W. Apple	P.O. Box 629, Reidsville, NC 28323

List of Property Owners

NC Dept. of Transportation
Division of Highways
Rockingham County
WBS - 34924.1.1 (U-3326A/B)

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
1	-L- 32+83 - 35+32 Bank Stabilization	36" rcp/42" wsp									74	67	
1A	-L- 32+83 - 35+32	36" rcp/42" wsp							0.005		43		
2	-Y8A- 12+16 - 12+44	42" rcp							0.01	0.01	71	12	
3	-L- 98+70 - 99+07	30" rcp							0.004		51		
4	-Y10RpC- 10+71 - 12+12	N/A							0.01	0.003	114	18	
5	-L- 147+82 - 152+15	66" rcp							0.05	0.01	406	64	
6	-L- 158+75 - 159+12 Bank Stabilization	54" rcp/48" ws/rcp	0.001			0.002			0.004	0.001	55	27	
7	-L- 184+35 - 186+37 Bank Stabilization	30" csp							0.03	0.003	202	7	
8	-Y13- 31+38 - 31+60 Bank Stabilization	42" & 54" rcp							0.004	0.003	45	31	
9	-L- 209+00 - 210+08	54" rcp				0.004			0.01	0.003	117	20	
10	-L- 224+86 - 227+09 Bank Stabilization	7'x7' rcbc							0.03	0.01	117	56	
11	-L- 225+50 - 226+20	18" rcp							0.004	0.001	75	11	
12	-L- 249+14 - 251+50	2 @ 8'x8' rcbc							0.05	0.01	90	33	
TOTALS:			0.09			0.01			0.22	0.06	1565	346	

Revised January 25, 2010. Added Site 1A
 Revised August 4, 2010. Sites 8 (Bank Stabilization)

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY
 WBS - 34924.1.1 (U-3326A/B)

SHEET **30 of 58** 8/6/2010

WETLAND PERMIT IMPACT SUMMARY

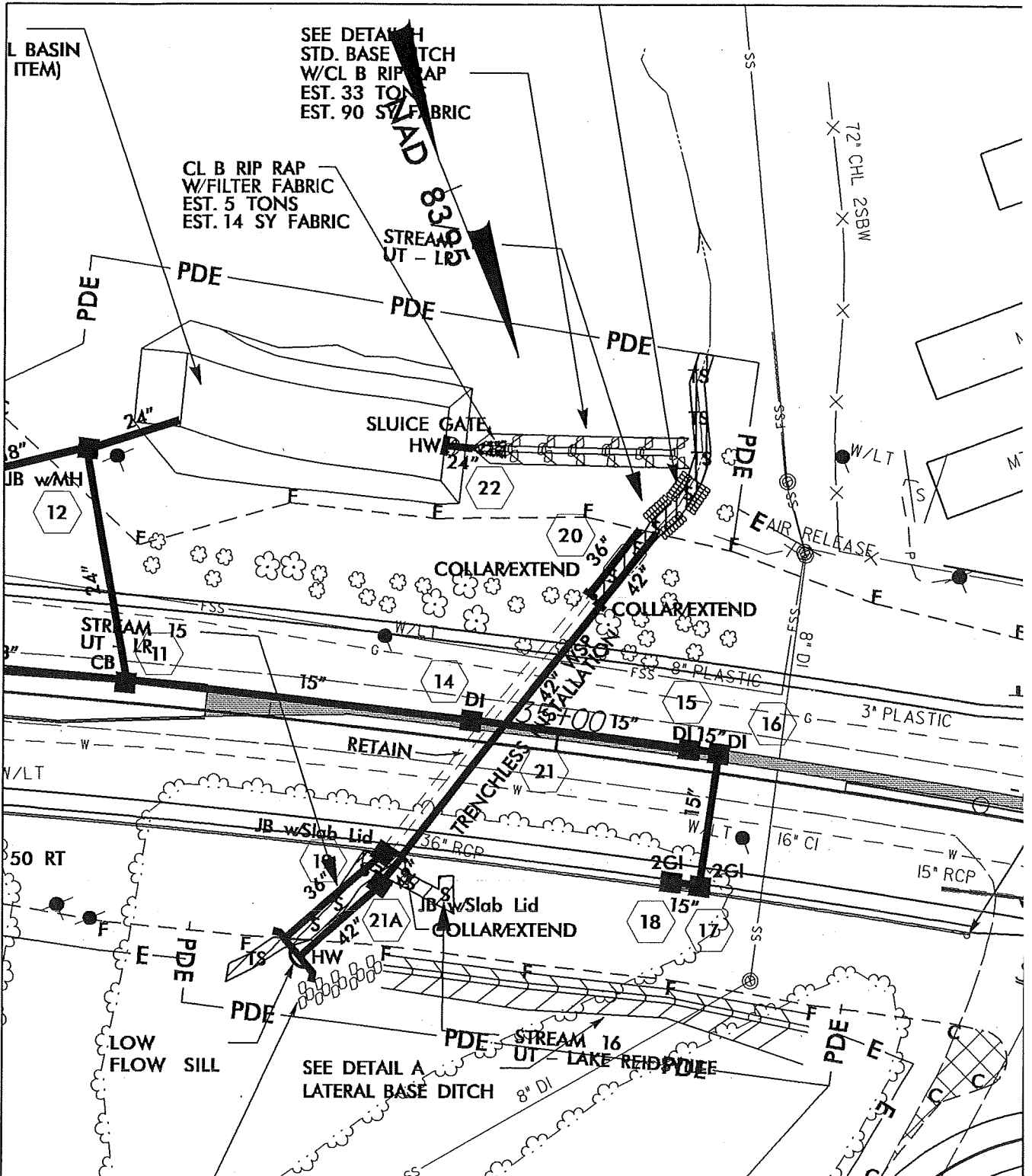
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS						
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)			
	Bank Stabilization											85			
13	-L- 255+70 - 258+55	24" rcp								0.02	0.002		194	21	
14	-L- 290+21 - 292+59	60" ssp								0.01	0.001		165	12	
15A	-L- 290+21 - 292+59	60" ssp								0.01	0.001		66	7	
15B	-L- 290+21 - 292+59	60" ssp								0.03	0.004		207	17	
15C	-Y20B- 13+45 - 14+32	Fill								0.01			90		
16	-Y21RpB- 10+47 - 10+64	Fill								0.000	0.001		4	10	
17	-L- 310+86 - 311+63	6'x6' rcbc								0.01	0.01		75	38	
	Bank Stabilization												20		
18	-L- 324+72 - 325+25	5'x6' rcbc								0.02	0.01		121	42	
	Bank Stabilization												18		
TOTALS:										0.11	0.02		1045	147	
PROJECT TOTALS:										0.33	0.08		2610	493	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS


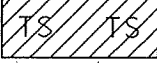
ROCKINGHAM COUNTY
WBS - 3+924.1.1.1 (U-3326A/B)

SHEET *4 of 58*

8/6/2010

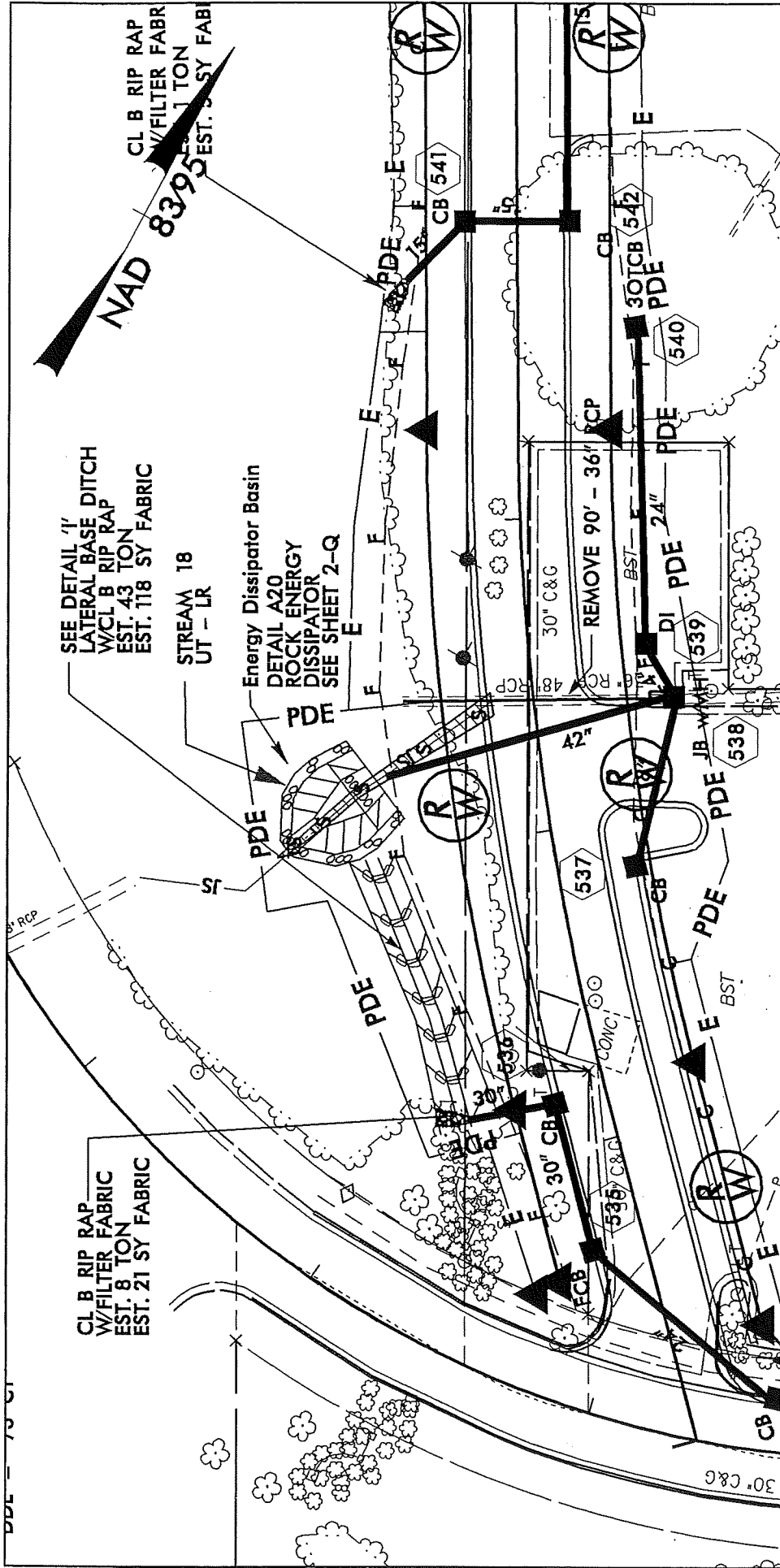


**SITE 1 & 1A
SURFACE WATER IMPACTS**

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A / B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

07 / 02 / 09
 SHEET 5 OF 58 REV. 11 / 02 / 10



SITE 2
SURFACE WATER IMPACTS

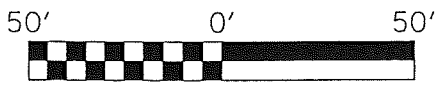
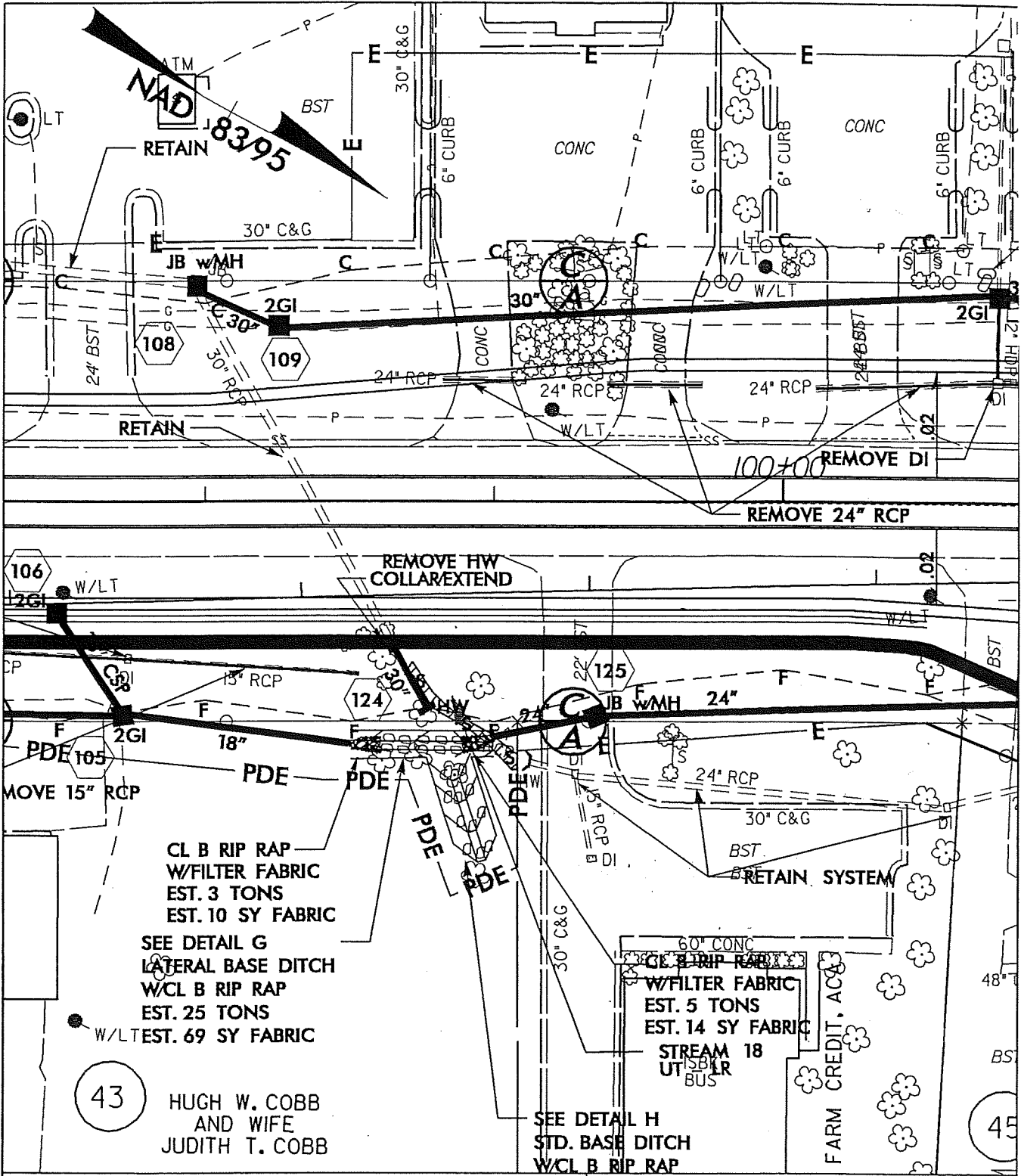
NCDOT
DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY

PROJECT: 34924.1.1 (U-3326A/B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE



SHEET **6** OF **58** 07 / 02 / 09

50' 0' 50'

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

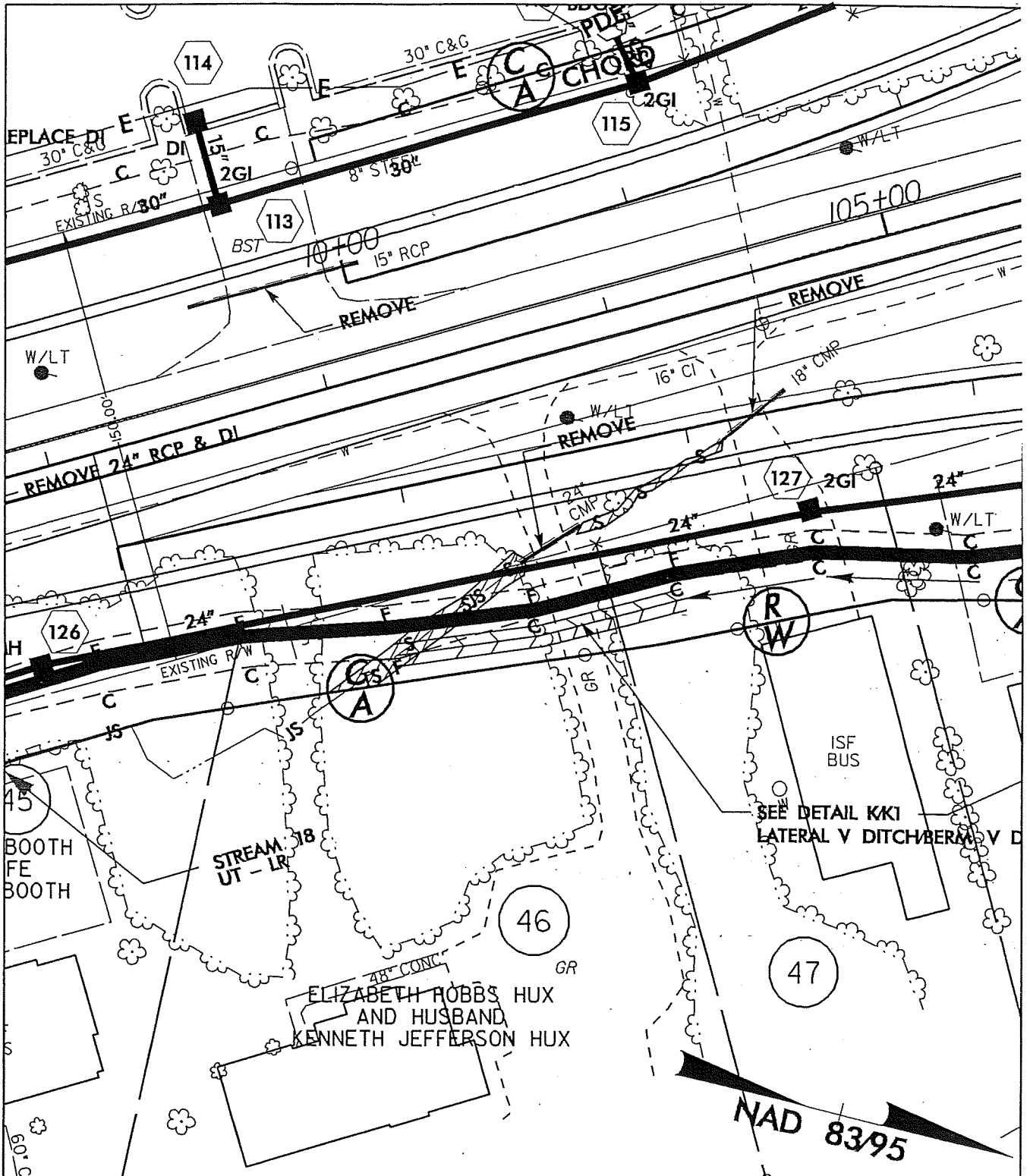


SITE 3 SURFACE WATER IMPACTS

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

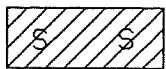
NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST)
 TO NC 14 IN REIDSVILLE

SHEET 7 OF 58 07/02/09

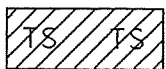


SITE 4

SURFACE WATER IMPACTS



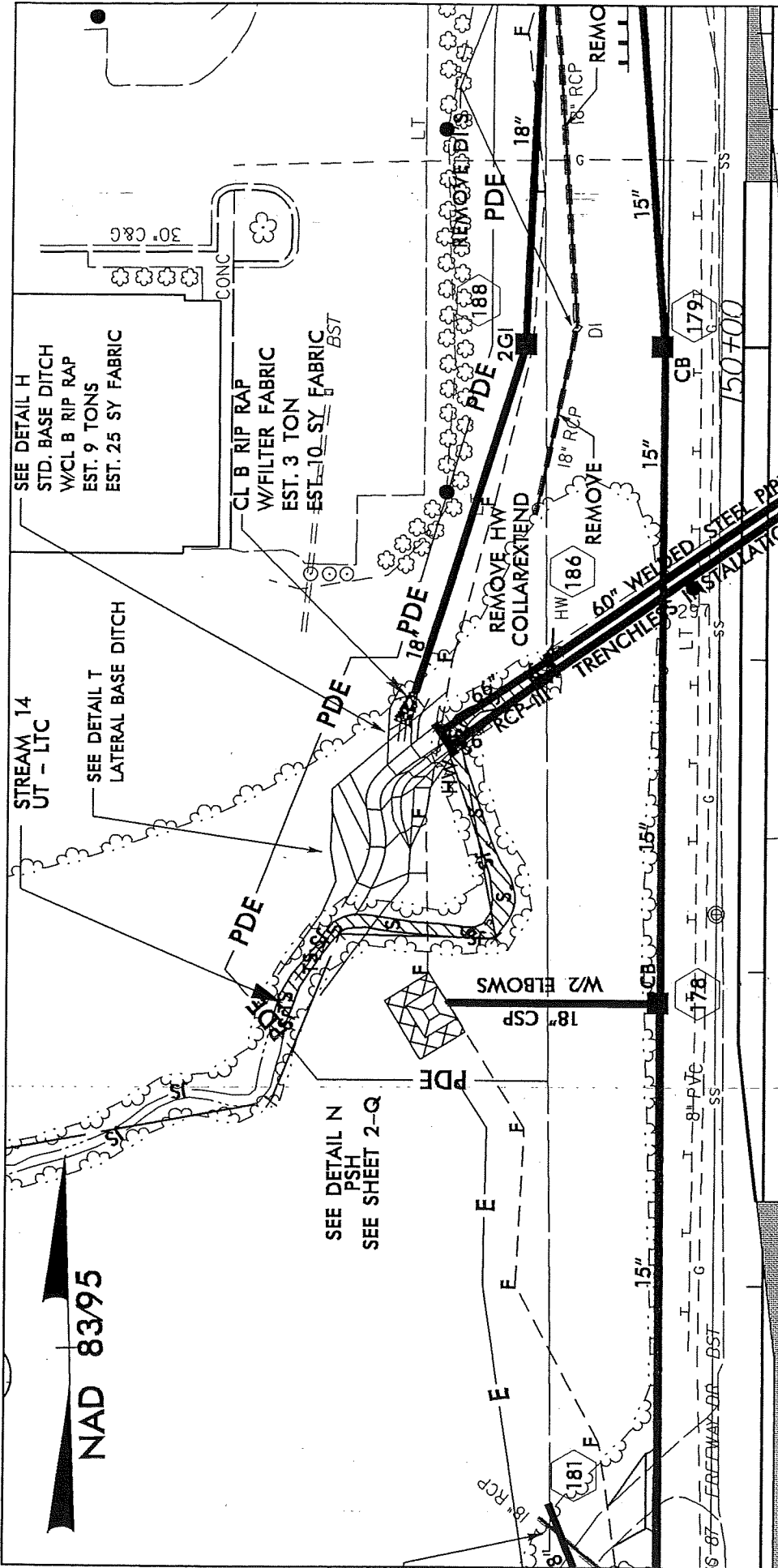
DENOTES IMPACTS IN SURFACE WATER



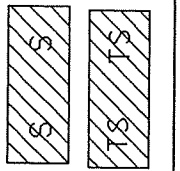
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST)
 TO NC 14 IN REIDSVILLE



NAD 83/95

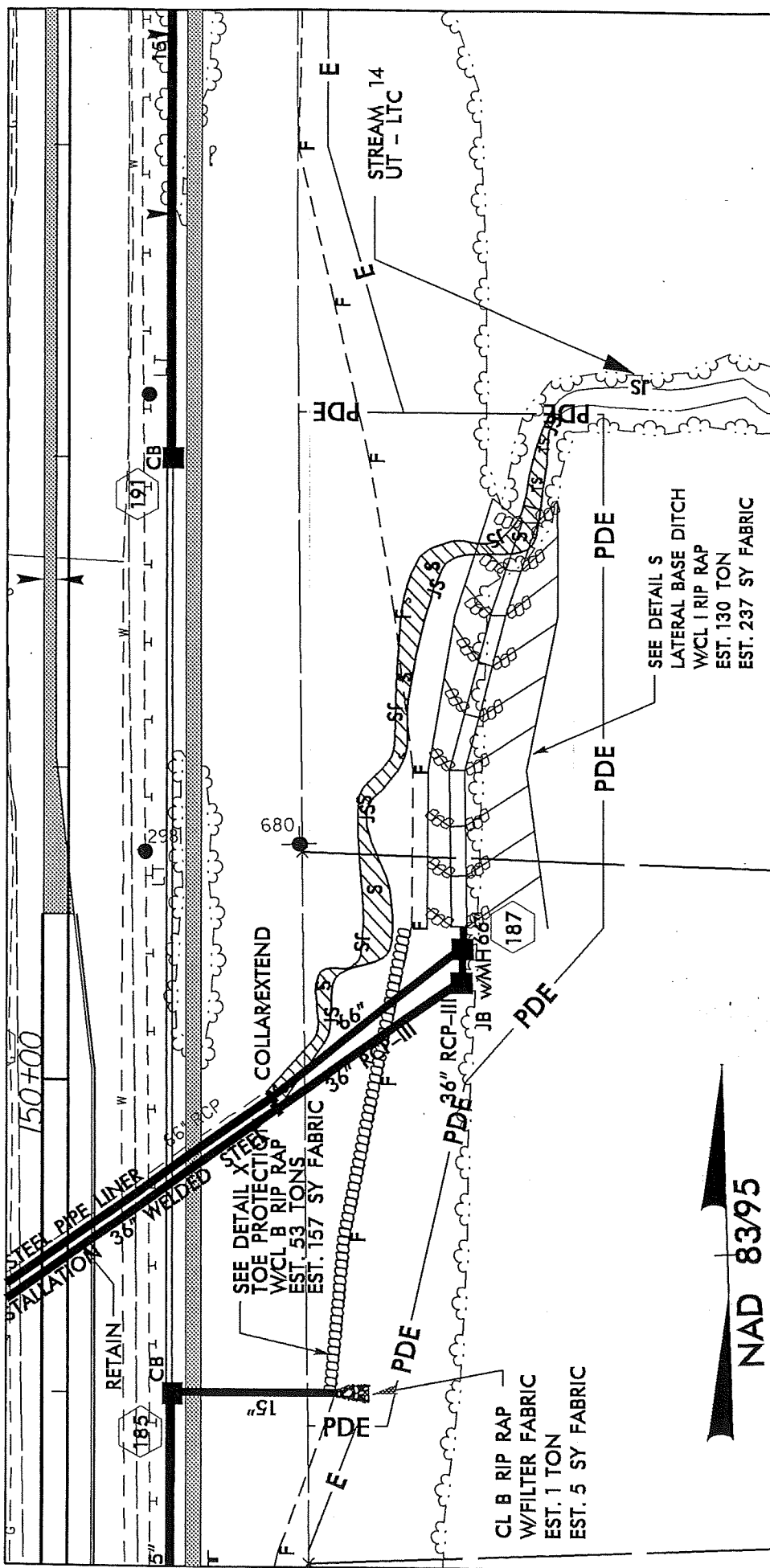


SITE 5 SURFACE WATER IMPACTS

NCDOT

DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A-B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

SHEET 9 OF 58
 REVISED 08/04/2010
 07/02/09



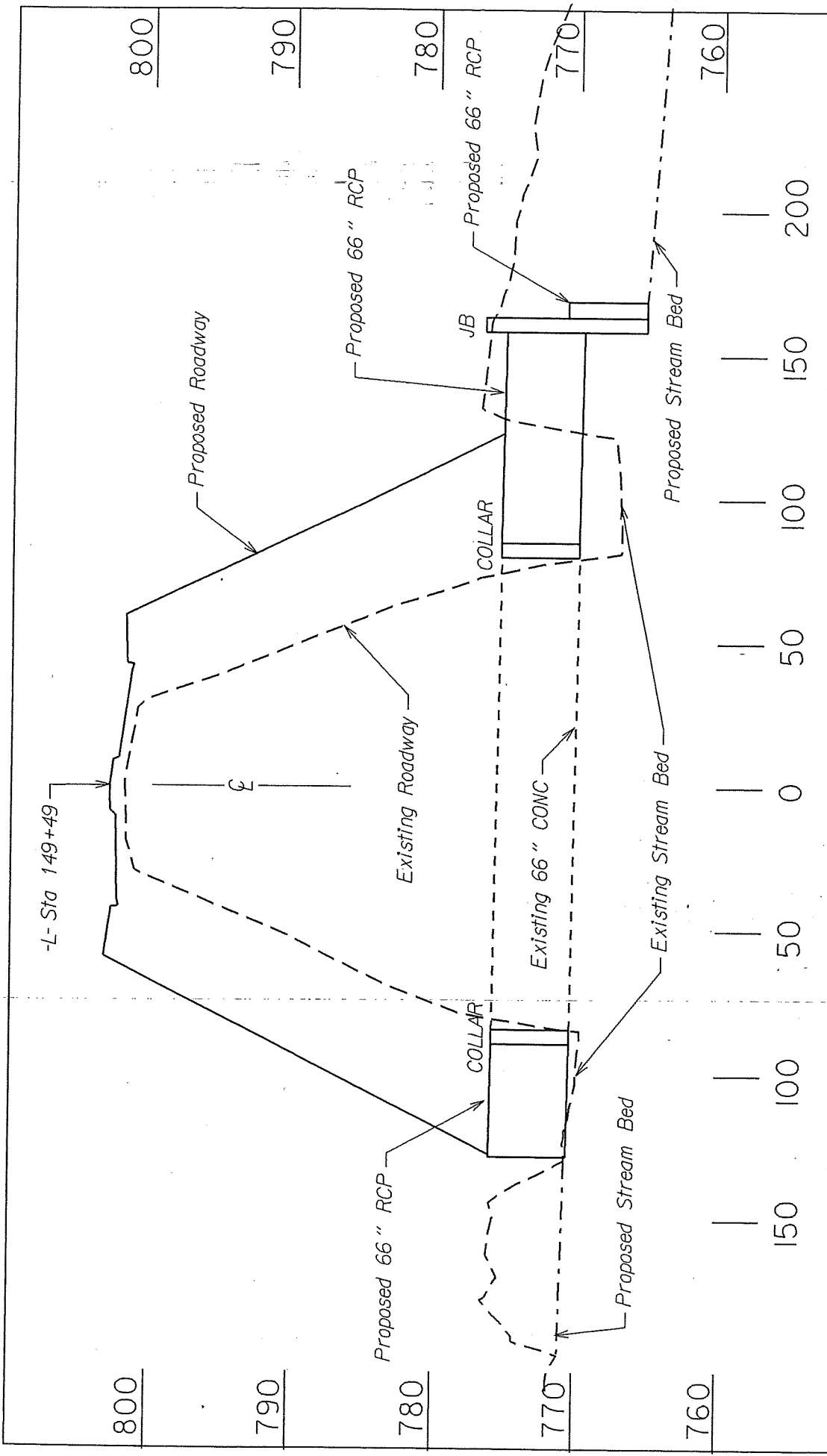
NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

SITE 5
 SURFACE WATER IMPACTS

SHEET 10 OF 58 REVISED 08/04/2010
 SHEET 10 OF 58 07/02/09



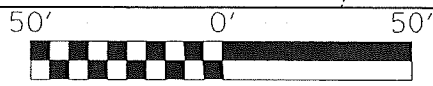
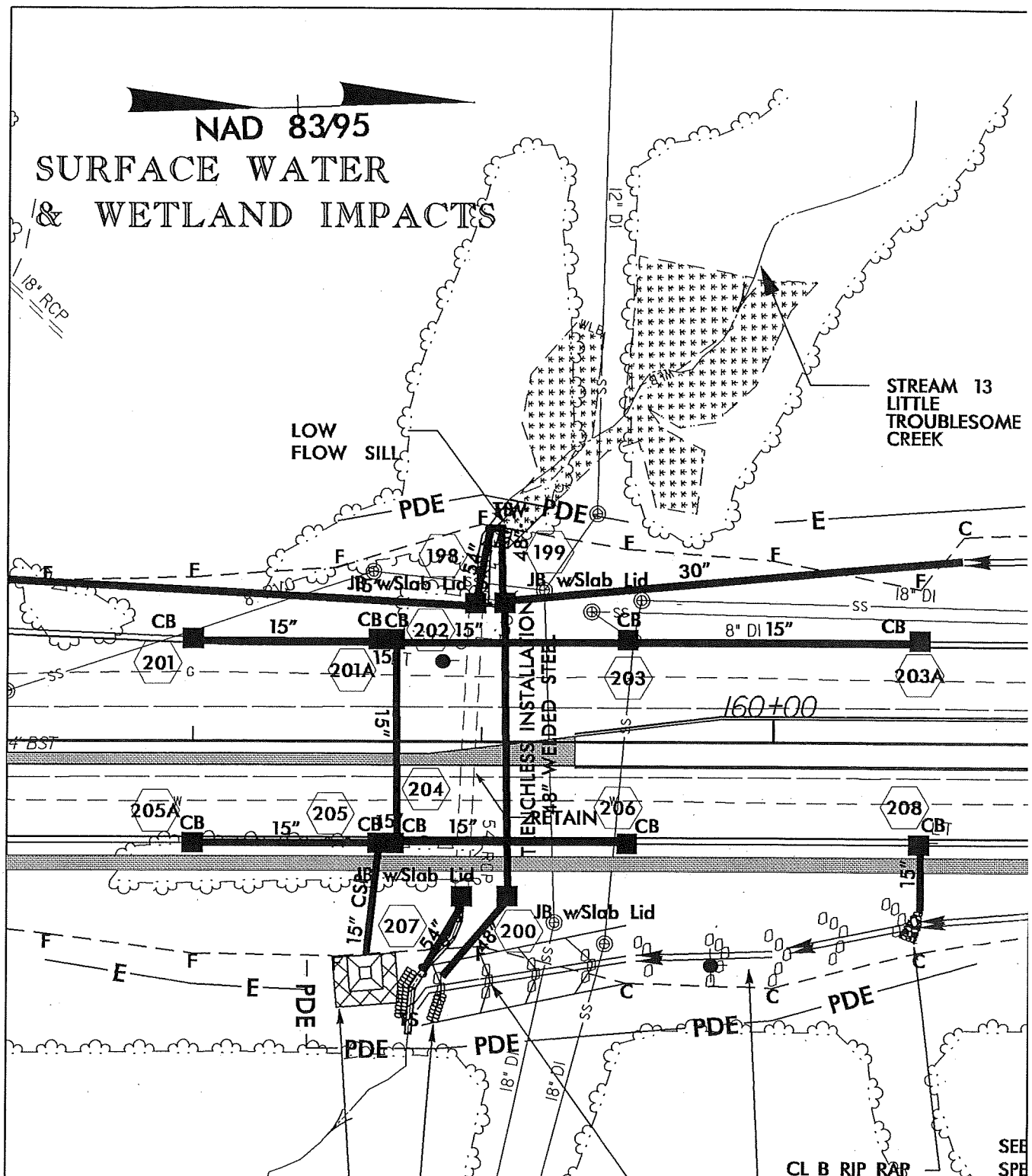
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326)
 US 29 IN REIDSVILLE
 SHEET 11 OF S8 07/02/09

PROFILE SITE 5

NAD 83/95
SURFACE WATER
& WETLAND IMPACTS



SITE 6

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

NCDOT
DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.1.1 (U-3326A / B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE

SHEET 12 OF 58

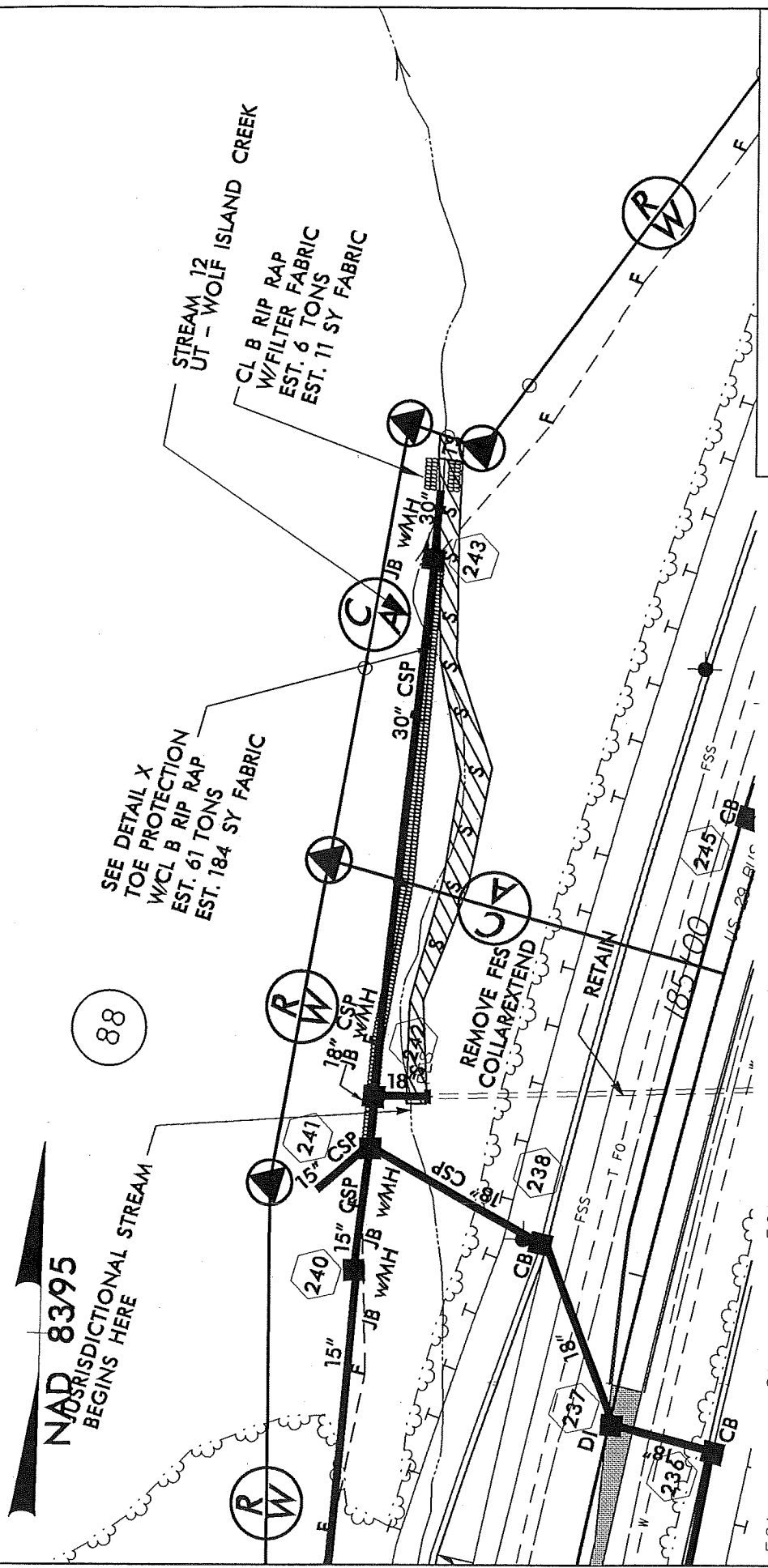
REVISED 11/03/10
07/02/09

NAD 83/95
 JURISDICTIONAL STREAM
 BEGINS HERE

88

SEE DETAIL X
 TOE PROTECTION
 W/CL B RIP RAP
 EST. 61 TONS
 EST. 184 SY FABRIC

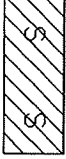

STREAM 12
 UT - WOLF ISLAND CREEK
 CL B RIP RAP
 W/FILTER FABRIC
 EST. 6 TONS
 EST. 11 SY FABRIC

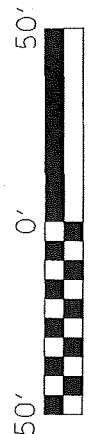


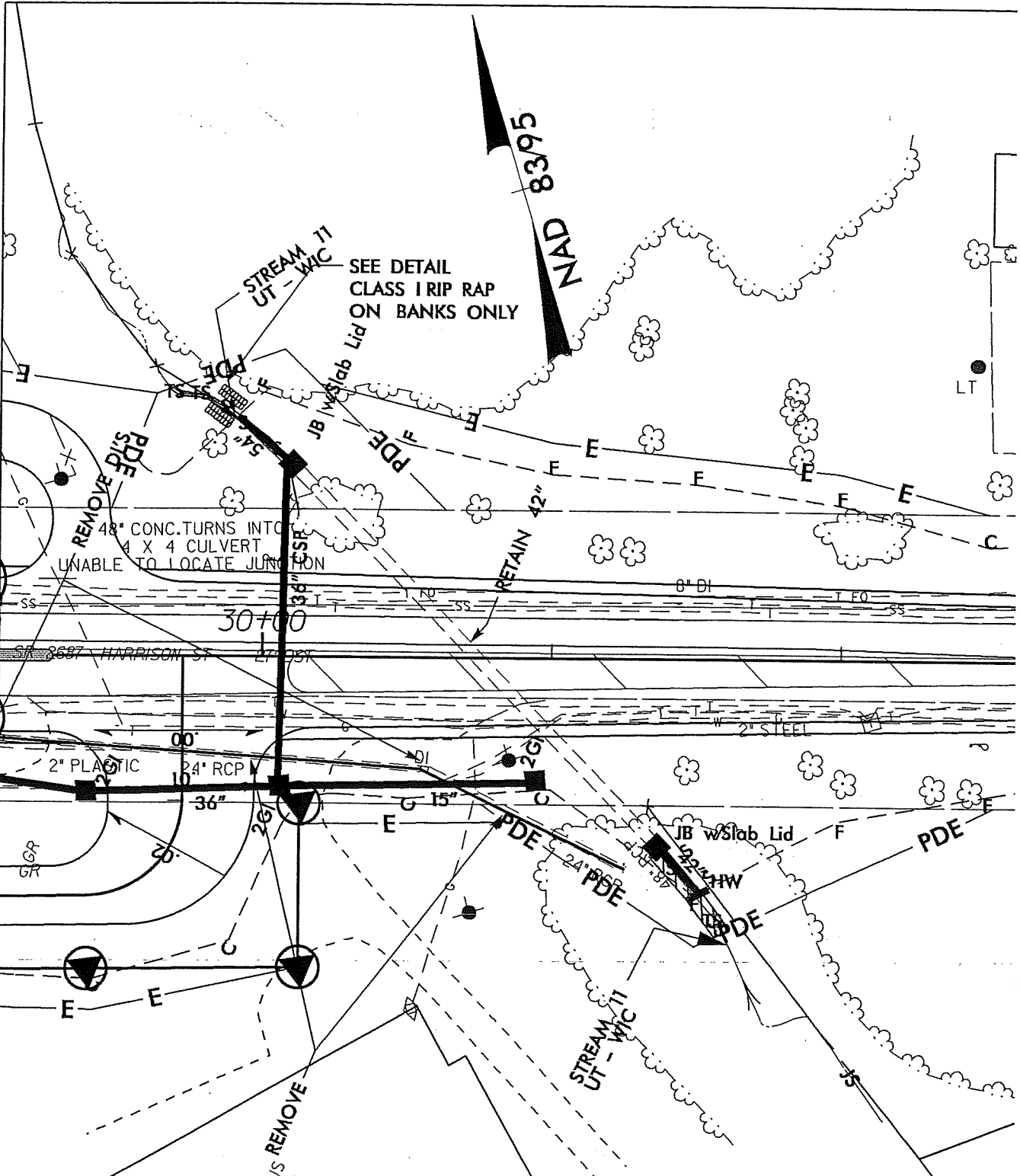
NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3526A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 STO NC 14 IN REIDSVILLE

SHEET **13** OF **58** REVISED 11/04/2010
 07/02/09

SITE 7
SURFACE WATER IMPACTS

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER





50' 0' 50'

SITE 8

SURFACE WATER IMPACTS

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

PROJECT: 349241.1.1 (U-3326A/B)

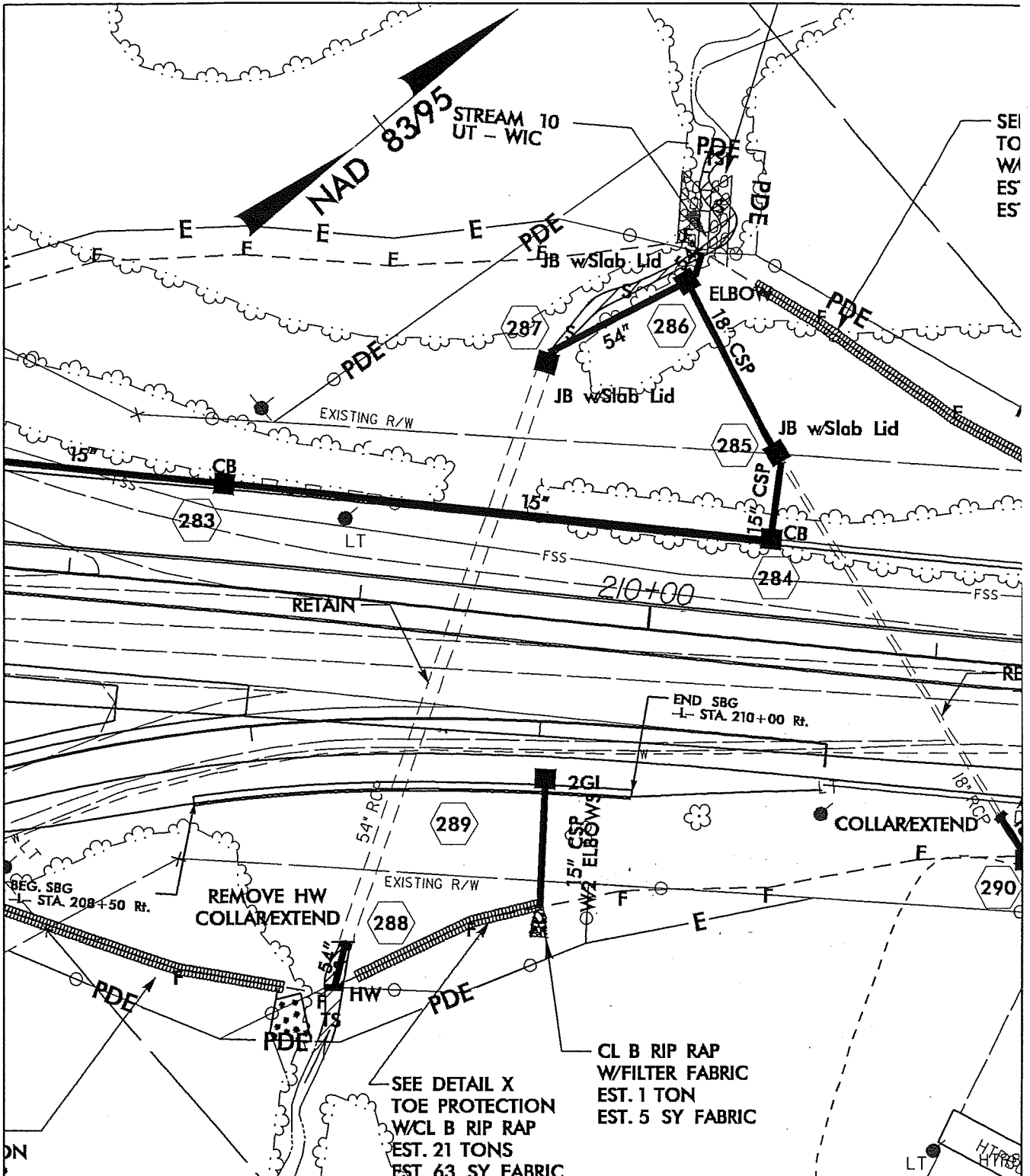
US 29 BUSINESS FROM

SR 2670 (SOUTH SCALES ST.)

TO NC 14 IN REIDSVILLE

SHEET 14 OF 58

REVISED 08/04/2010
07/02/09



SITE 9

SURFACE WATER & WETLAND IMPACTS

50' 0' 50'

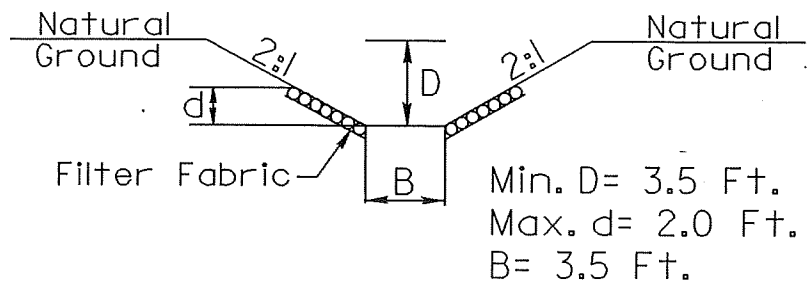
<div style="border: 1px solid black; padding: 2px; width: 40px; height: 20px; display: flex; justify-content: space-around;"> ******** </div>	DENOTES MECHANIZED CLEARING
<div style="border: 1px solid black; padding: 2px; width: 40px; height: 20px; display: flex; justify-content: space-around;"> SS </div>	DENOTES IMPACTS IN SURFACE WATER
<div style="border: 1px solid black; padding: 2px; width: 40px; height: 20px; display: flex; justify-content: space-around;"> TSTS </div>	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.1.1 (U-3326A/B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE

SHEET 15 OF 59 07/02/09

DETAIL Z
CHANNEL RELOCATION
(Not to Scale)



Type of Liner= CL 1 Rip-Rap

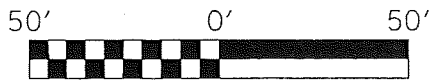
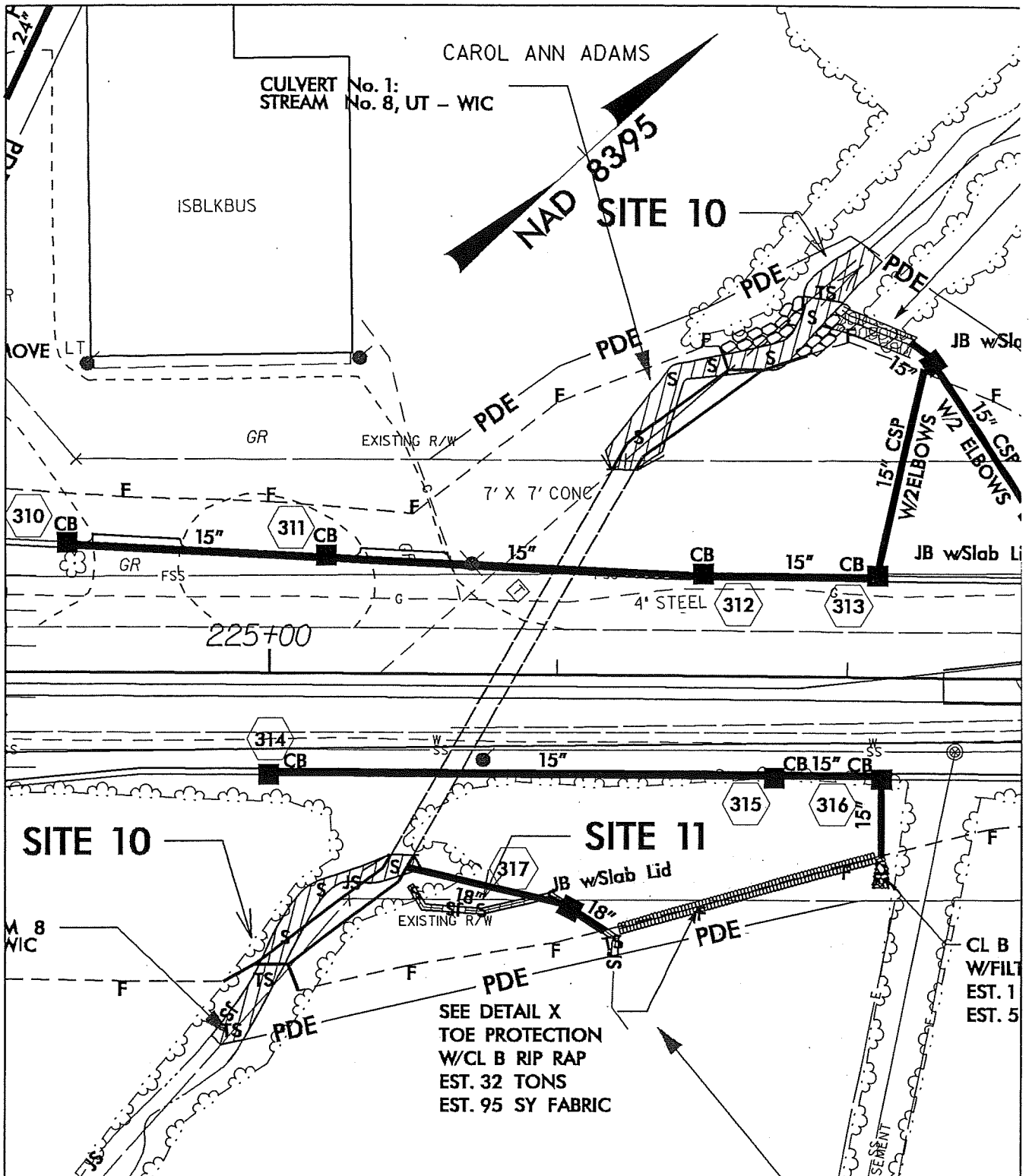
FROM -L- STA. 210+10 Lt.
DDE = 43 CY

DETAIL Z ENLARGEMENT
(NOT TO SCALE)

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

PROJECT: 34924.1.1 (U3326A/B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE

Permit Drawing
Sheet 5A of 58

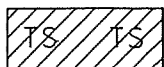


SITES 10 & 11

SURFACE WATER IMPACTS

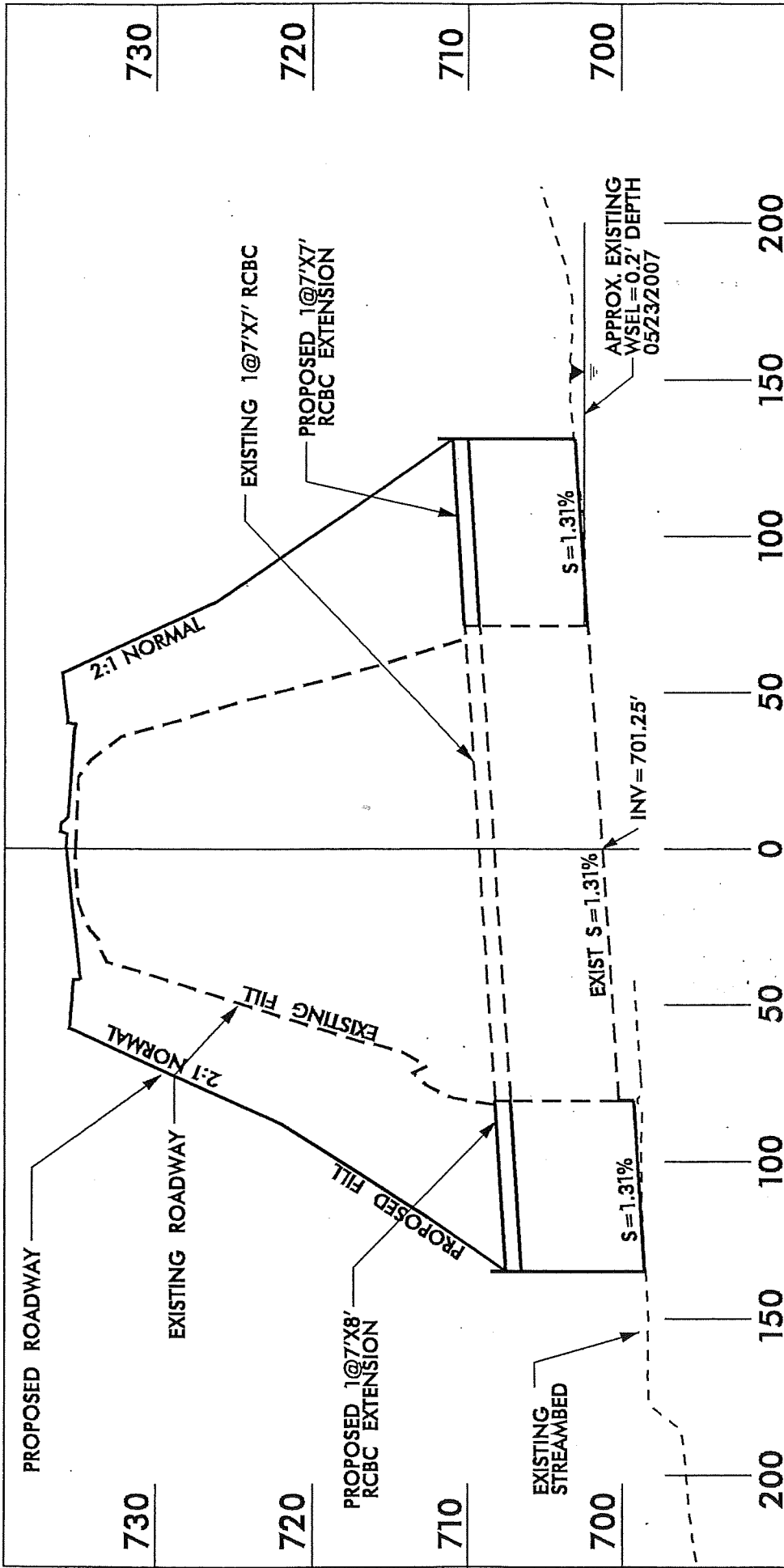


DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

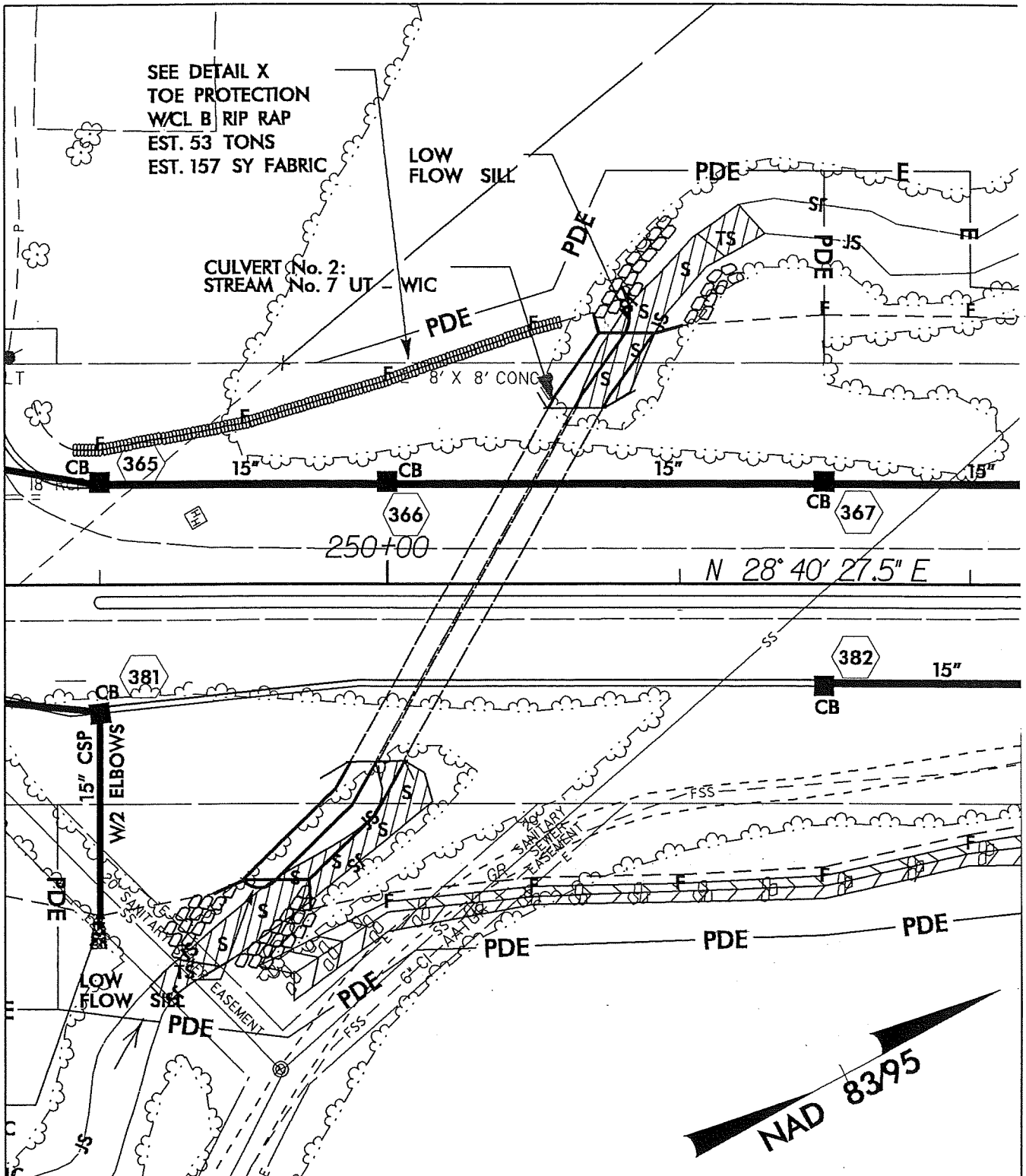
NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE



NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924111 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

-L- STA 225 + 82.25
 1@7'X7' RCBC
 G.P. ELEV 735.74'
 SKEW = 120°

PROFILE
 SITE 10



SEE DETAIL X
TOE PROTECTION
WCL B RIP RAP
EST. 53 TONS
EST. 157 SY FABRIC

CULVERT No. 2:
STREAM No. 7 UT - WIC

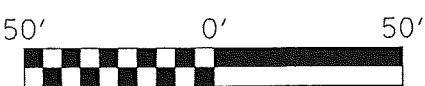
LOW FLOW SILL

8' X 8' CONG

250+00

N 28° 40' 27.5" E

NAD 8395

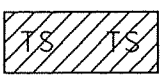


SITE 12

SURFACE WATER IMPACTS



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.1.1 (U-3326A / B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE

L- STA. 250+30.41
 2 @ 8'X8' RCBC
 G.P. ELEV = 720.09'
 SKEW = 120

PROPOSED ROADWAY

EXISTING 2@8'X8' RCBC

2.296:1
 (2:1 NORMAL)

WATER DEPTH = 0.30'

EXISTING STREAMBED

680

EXISTING ROADWAY

EXISTING FILL

1.732:1
 (1.5:1 NORMAL)

EXISTING S = 0.325%

G. ELEV = 686.54'

PROPOSED 2@8'X8'
 RCBC EXTENSION
 UPSTREAM &
 DOWNSTREAM

PROPOSED FILL

S = 0.417%

S = 0.51%

720

710

700

690

680

150 100 50 0 50 100

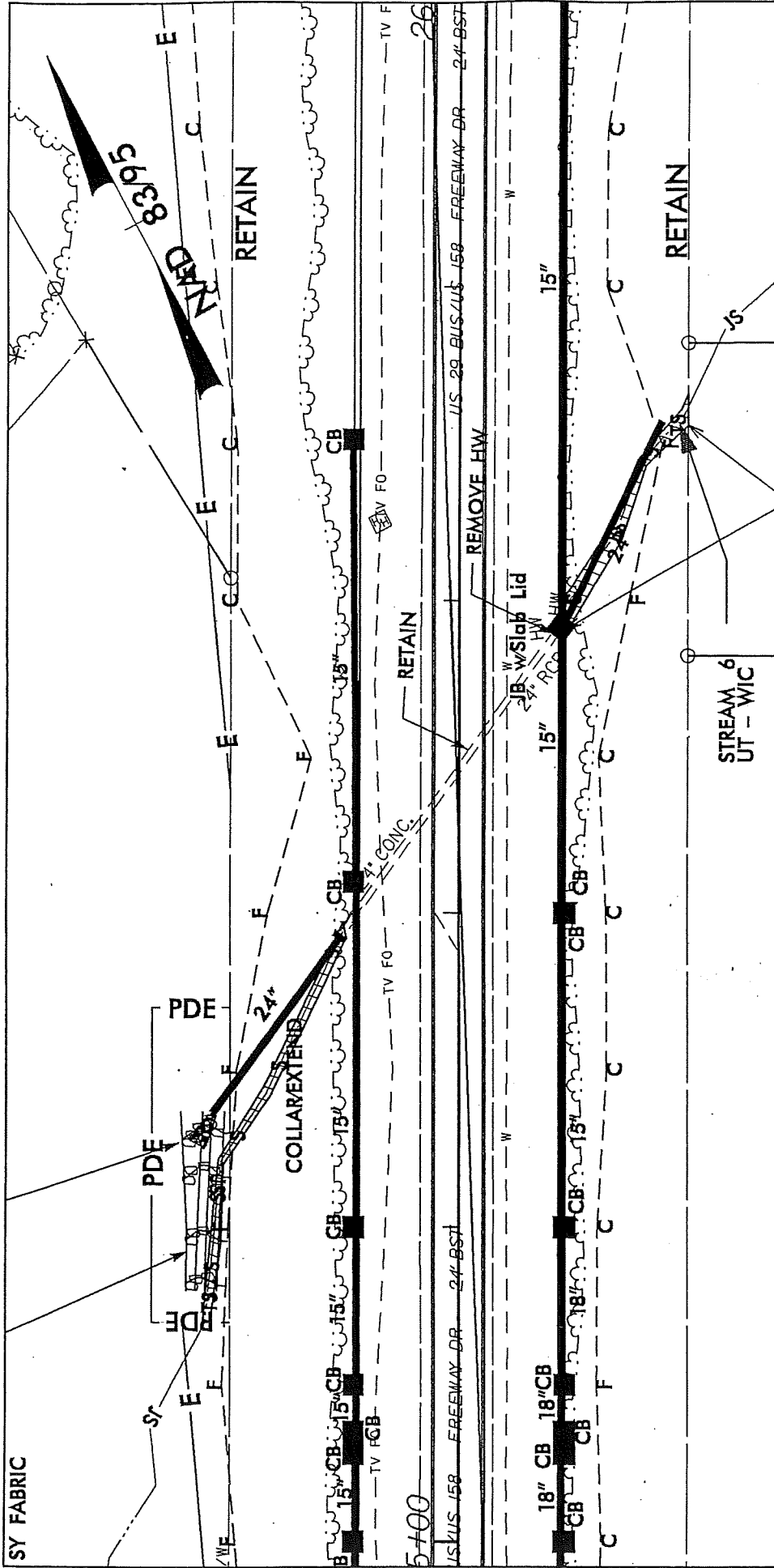
PROFILE
 SITE 12

NCDOT

DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.11 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

SHEET 19 OF 58

07/01/09



NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A / B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 STO NC 14 IN REIDSVILLE

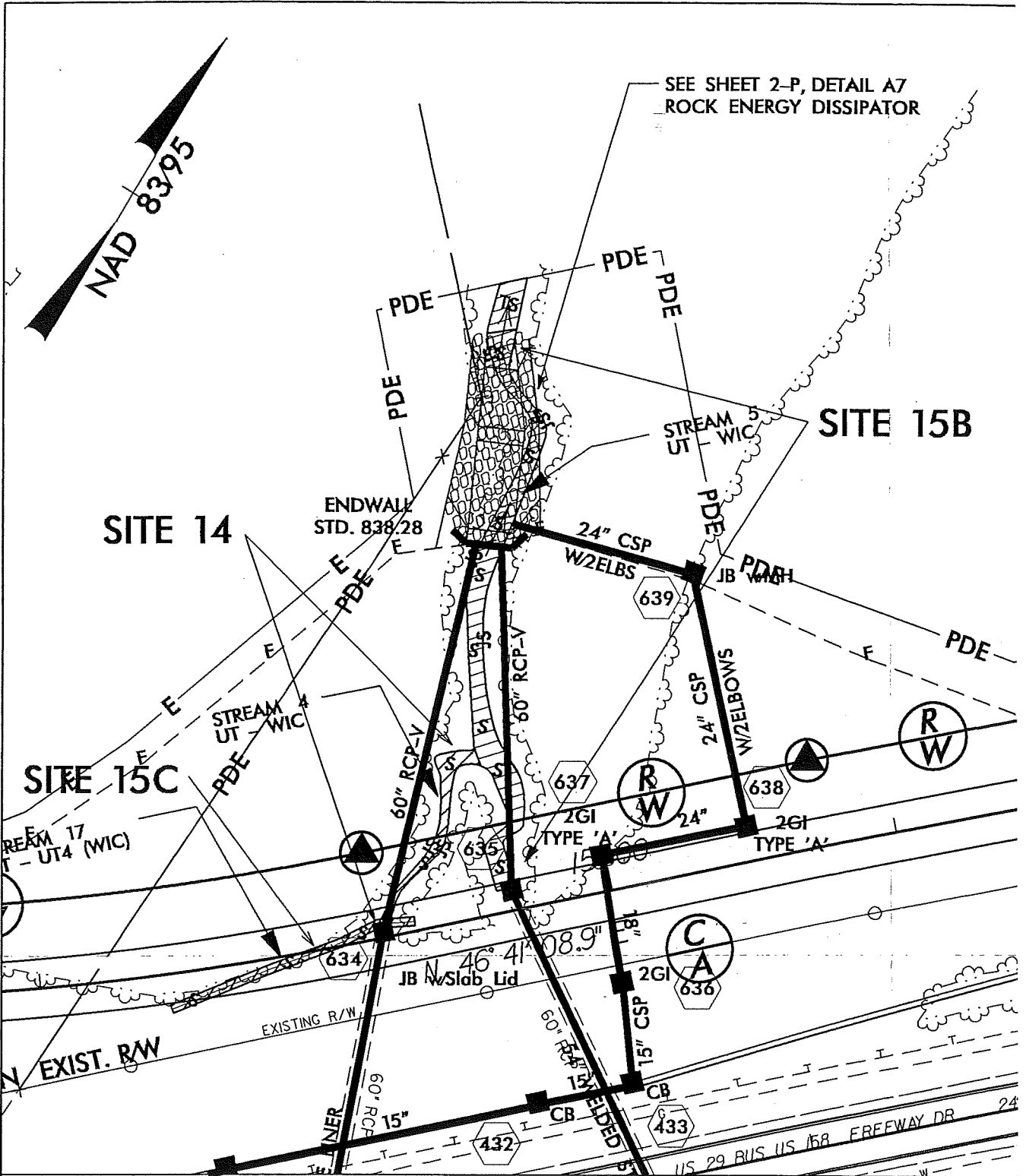
SHEET 20 OF 58 07/02/09

SITE 13
 SURFACE WATER IMPACTS

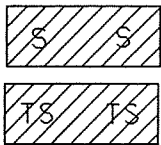
50' 0' 50'

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



**SITES 14, 15A, 15B, & 15C
SURFACE WATER IMPACTS**



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

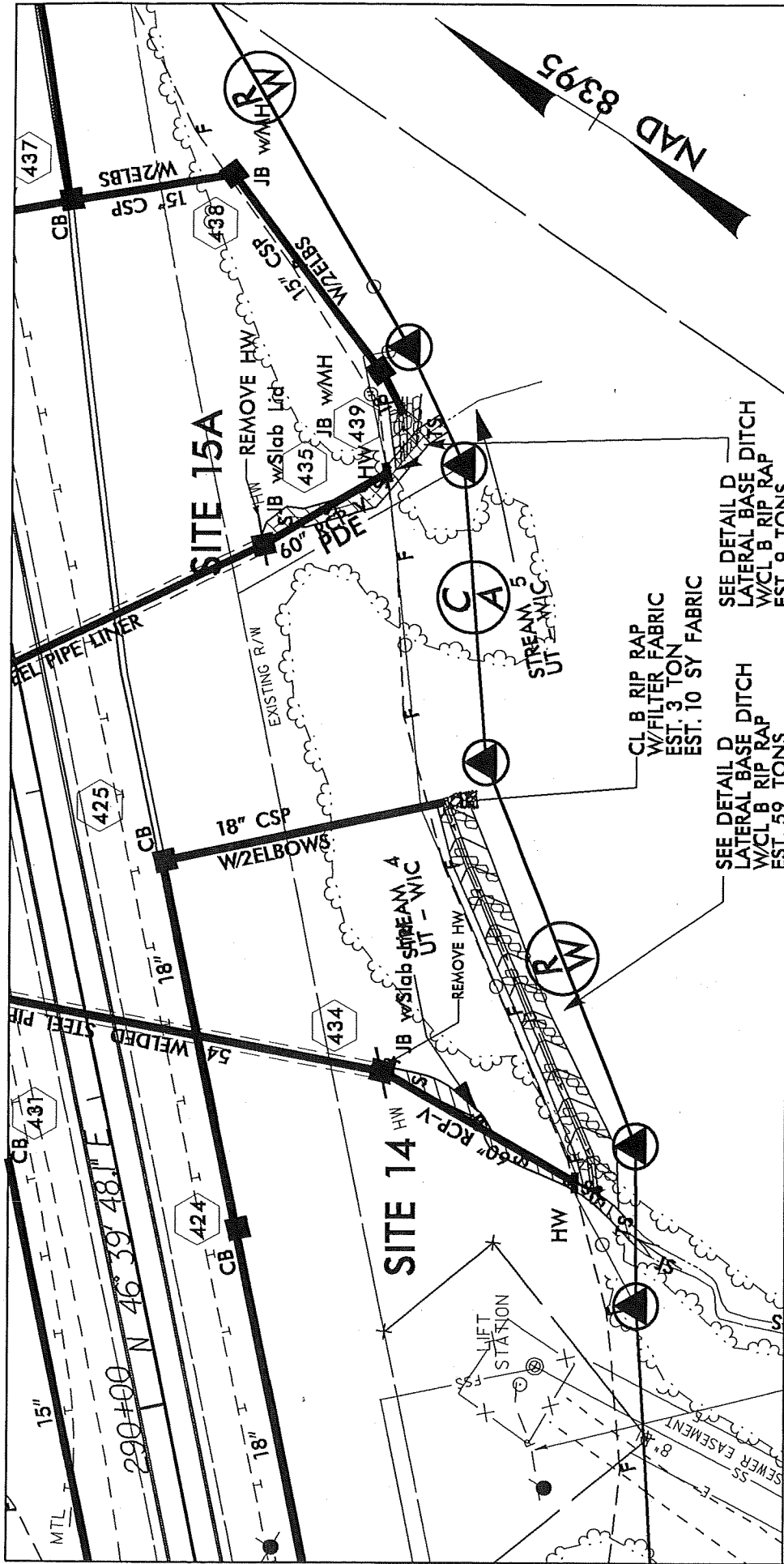
SEE SHEET 2-P, DETAIL A7
ROCK ENERGY DISSIPATOR

SITE 14

SITE 15B

SITE 15C

NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A / B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

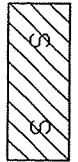


NCDOT

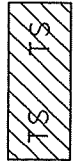
DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-5326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC14 IN REIDSVILLE

SHEET 22 OF 58
 REVISED 11/04/2010
 07/02/09

SITES 14, 15A, 15B, & 15C
 SURFACE WATER IMPACTS



DENOTES IMPACTS IN
 SURFACE WATER



DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

CL. B RIP RAP
 W/FILTER FABRIC
 EST. 3 TONS
 EST. 10 SY FABRIC

SEE DETAIL D
 LATERAL BASE DITCH
 W/CL. B RIP RAP
 EST. 9 TONS

SEE DETAIL D
 LATERAL BASE DITCH
 W/CL. B RIP RAP
 EST. 59 TONS

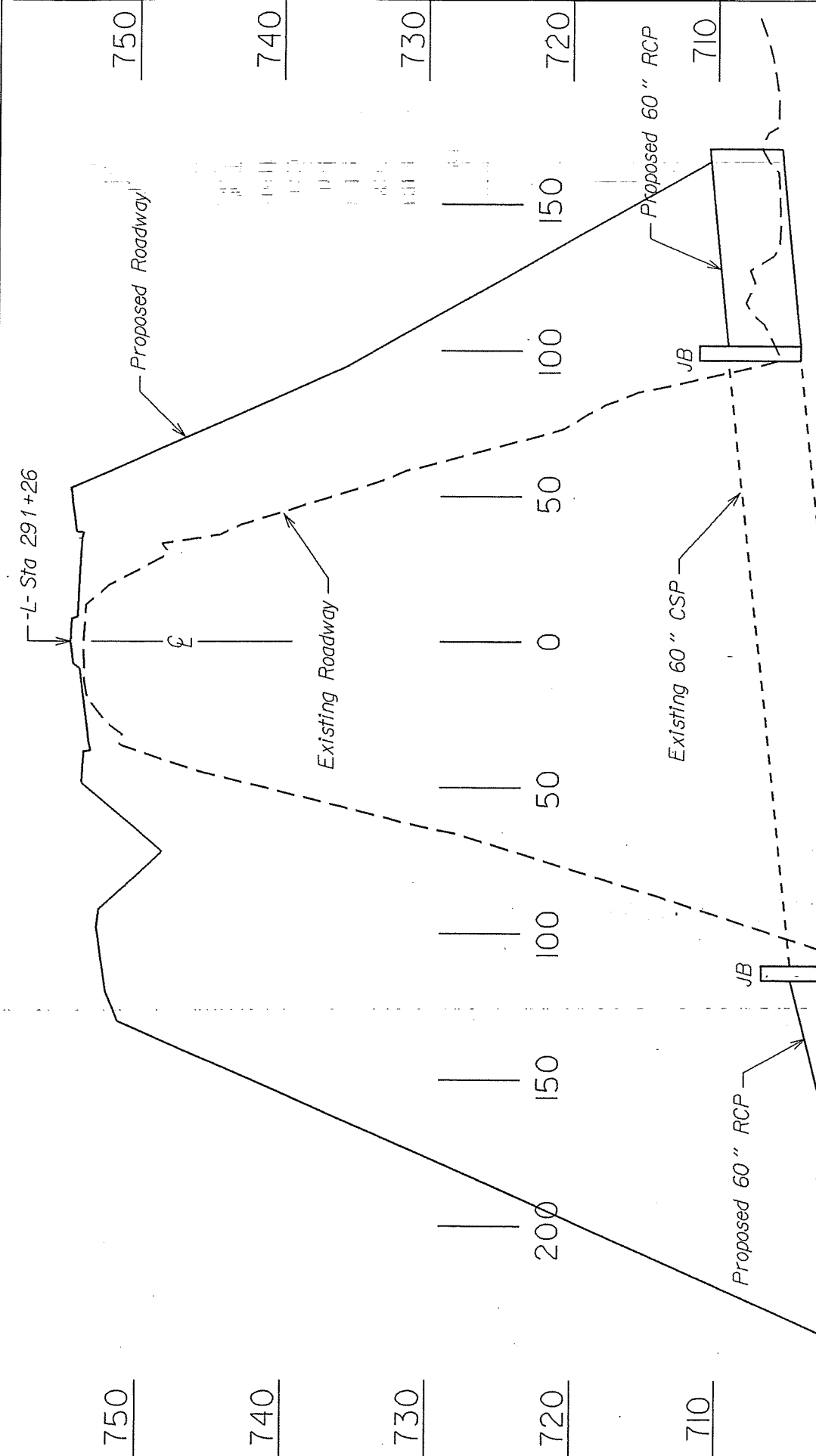
STREAM 5
 UT - WIC

LIFT
 STATION

SITE 15A

SITE 14

NAD 83/95



NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.11 (U-3326)
 US 29 IN REIDSVILLE
 REVISED 08/04/2010
 SHEET 23 OF 58 07/02/09

PROFILE SITE 14

Existing Stream Bed

-L- Sta 292+42

750

740

730

720

710

750

740

730

720

710

700

Proposed Roadway

Existing Roadway

Existing 60" CSP

Proposed 60" RCP

Proposed 60" RCP

JB

JB

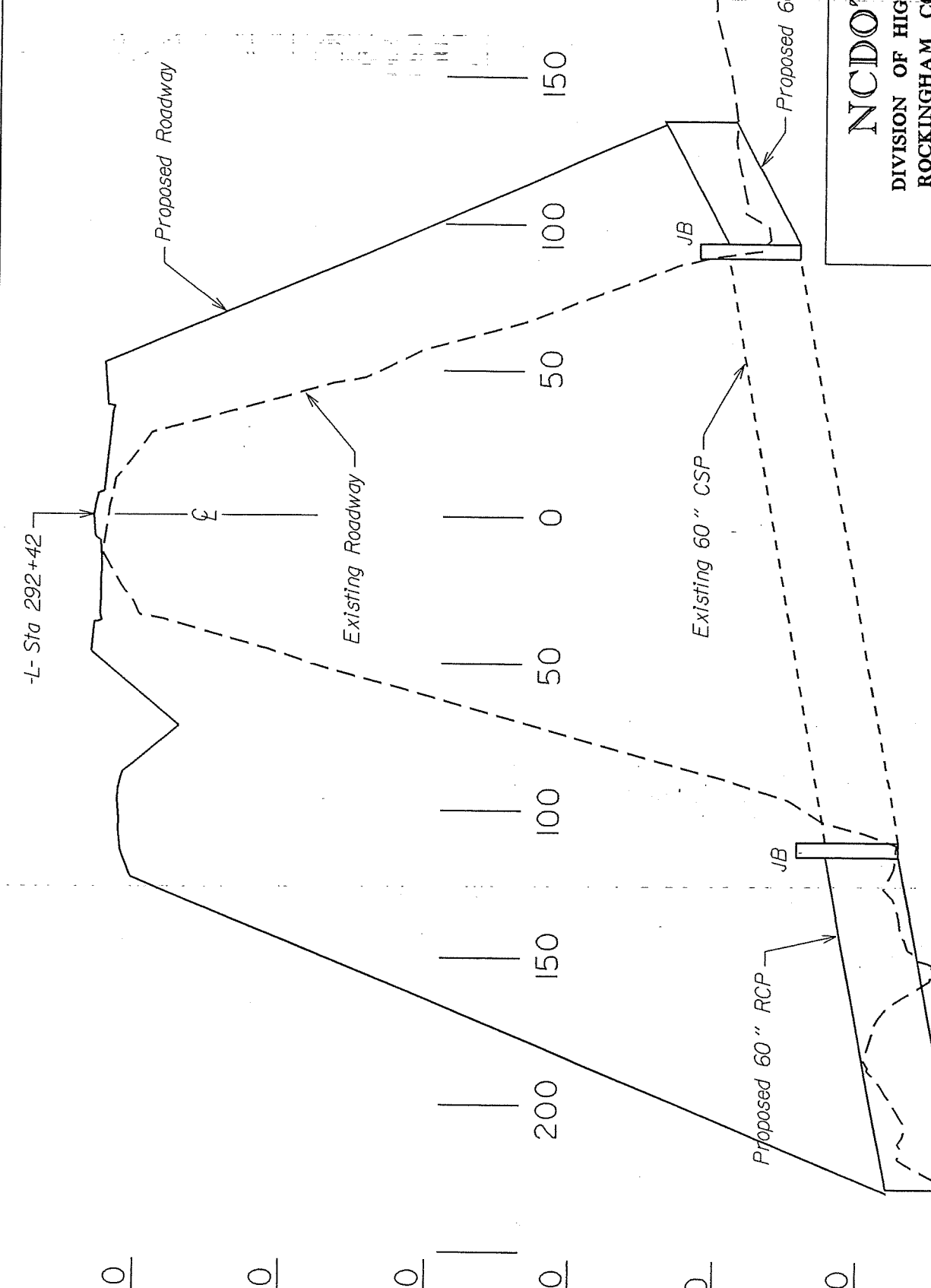
Existing Stream Bed

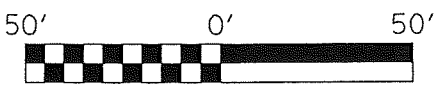
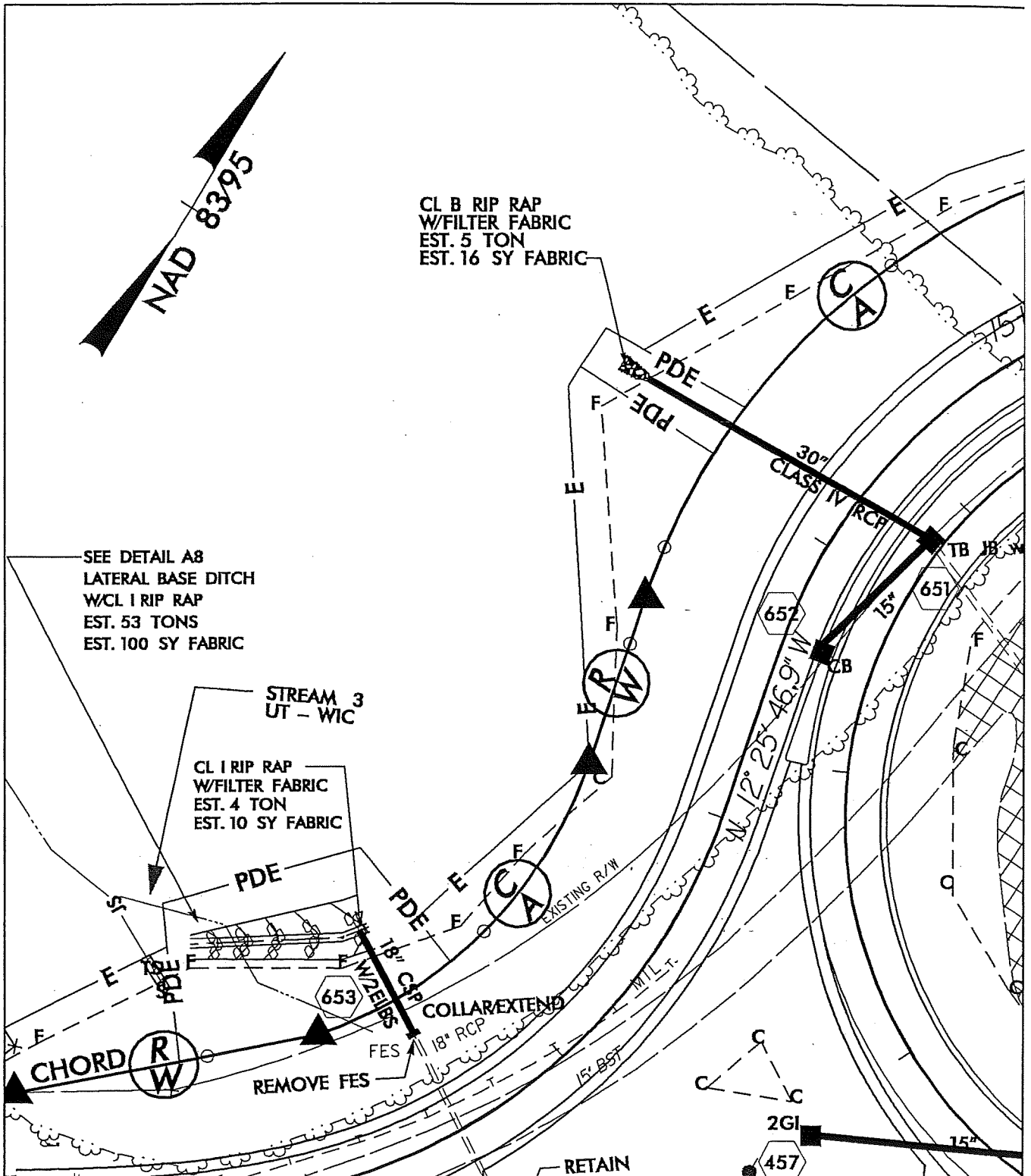
NCDOT

DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.11 (U-5326)
US 29 IN REIDSVILLE

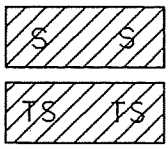
REVISED 08/04/2010
SHEET 24 OF 28 07/02/09

PROFILE SITE 15





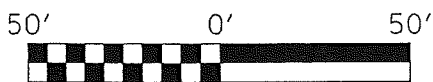
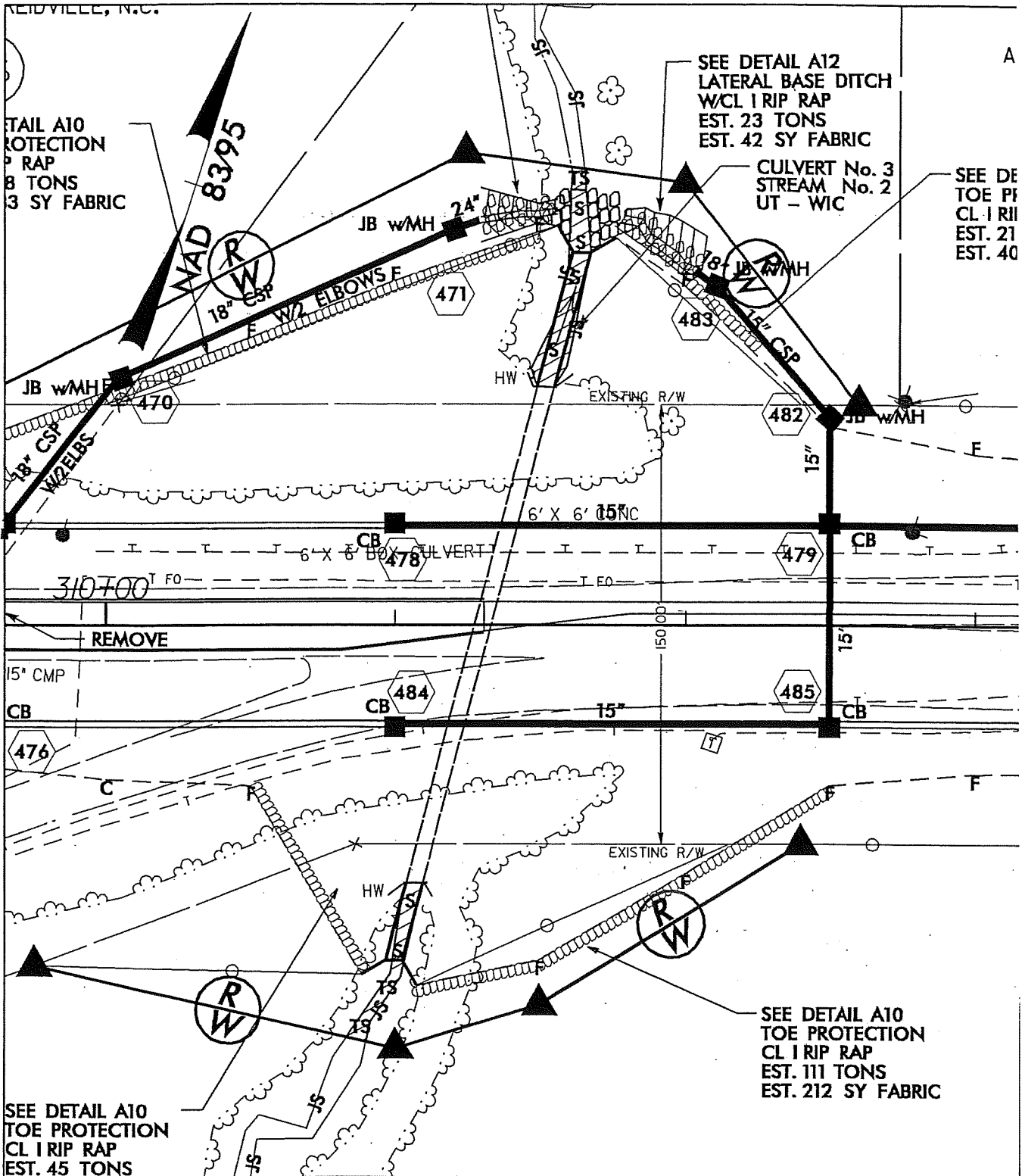
SITE 16
SURFACE WATER IMPACTS



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

SHEET 25 OF 58 07/02/09

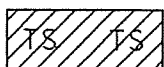


SITE 17

SURFACE WATER IMPACTS



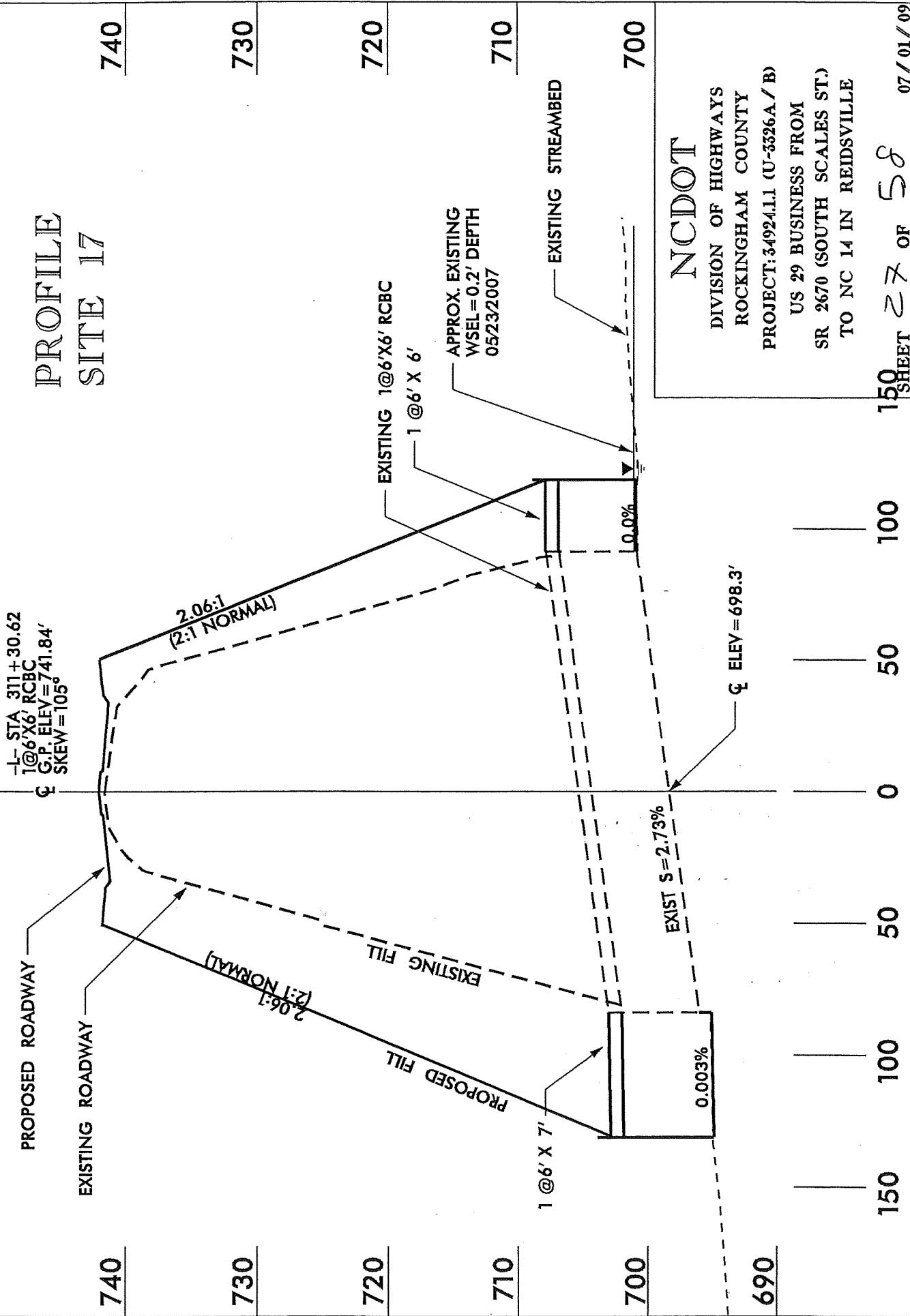
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

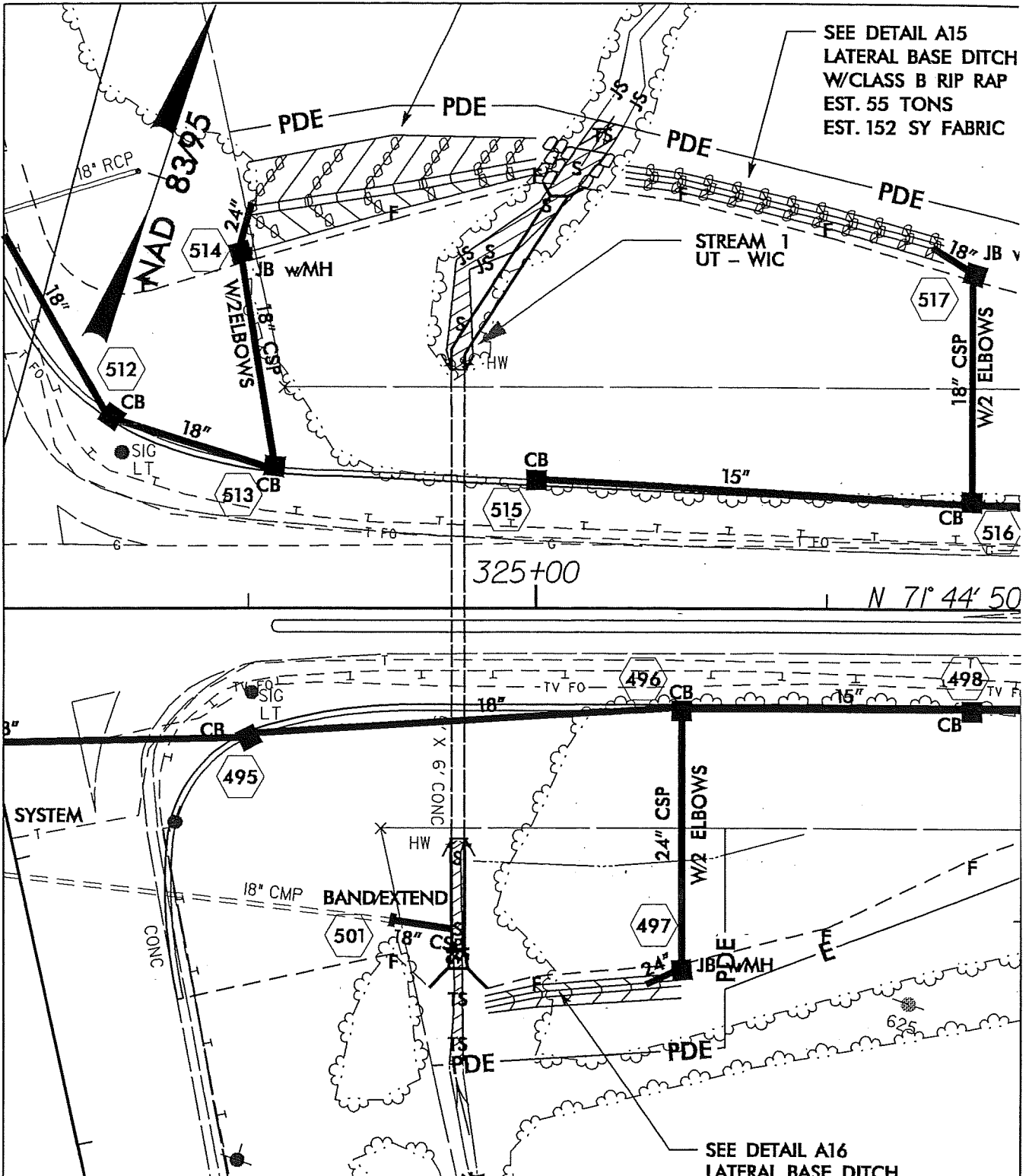
NCDOT
DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.1.1 (U-3326A / B)
US 29 BUSINESS FROM
WSR 2670 (SOUTH SCALES ST)
TO NC 14 IN REIDSVILLE

PROFILE SITE 17



NCDOT

DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326.A./B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE





SEE DETAIL A15
LATERAL BASE DITCH
W/CLASS B RIP RAP
EST. 55 TONS
EST. 152 SY FABRIC

SEE DETAIL A16
LATERAL BASE DITCH



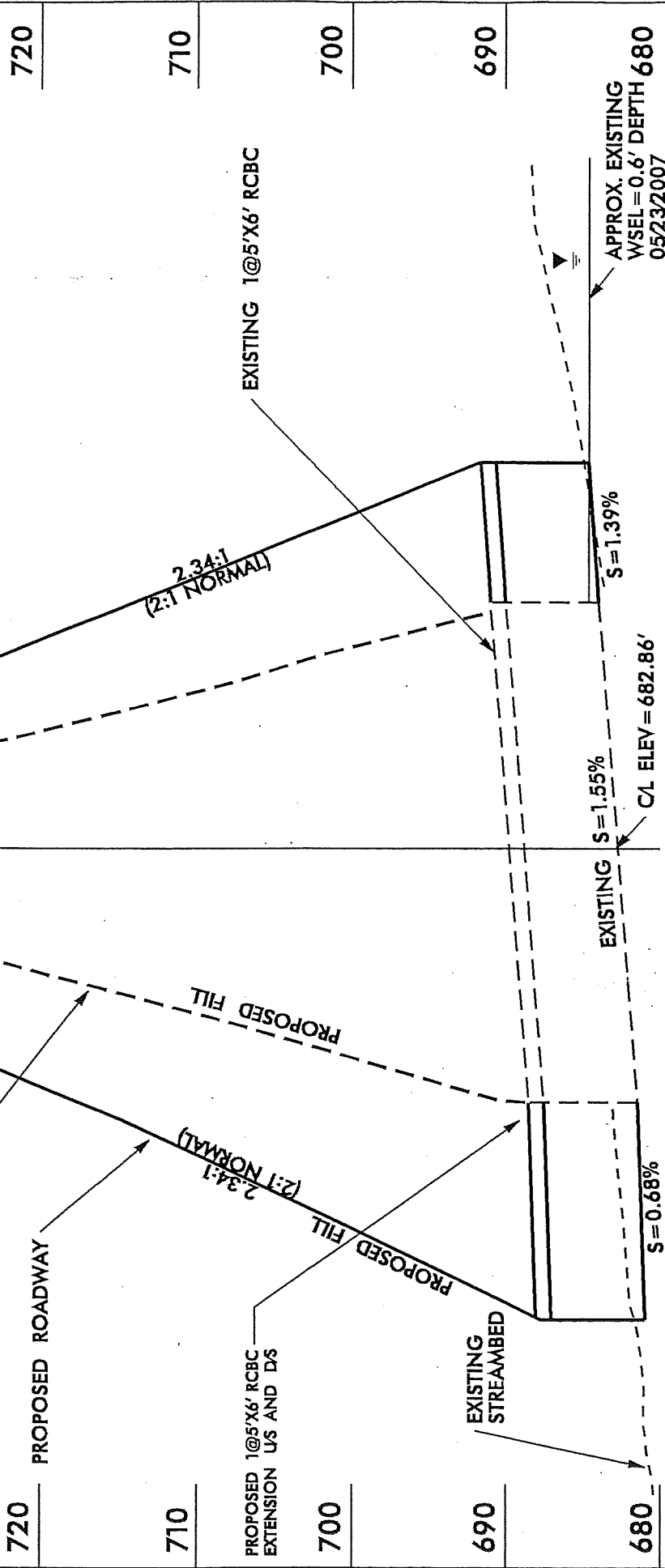
SITE 18

SURFACE WATER IMPACTS

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 34924.1.1 (U-3326A/B)
US 29 BUSINESS FROM
SR 2670 (SOUTH SCALES ST.)
TO NC 14 IN REIDSVILLE

PROFILE SITE 18



NCDOT

DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 34924.1.1 (U-3326A/B)
 US 29 BUSINESS FROM
 SR 2670 (SOUTH SCALES ST.)
 TO NC 14 IN REIDSVILLE

SHEET 29 OF 58 07/01/09

-L- STA 324+72.83
 1@5'X6' RCBC
 G.P. ELEV=728.92'
 SKEW=90°

09/08/99

TIP PROJECT: U-3326AB

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

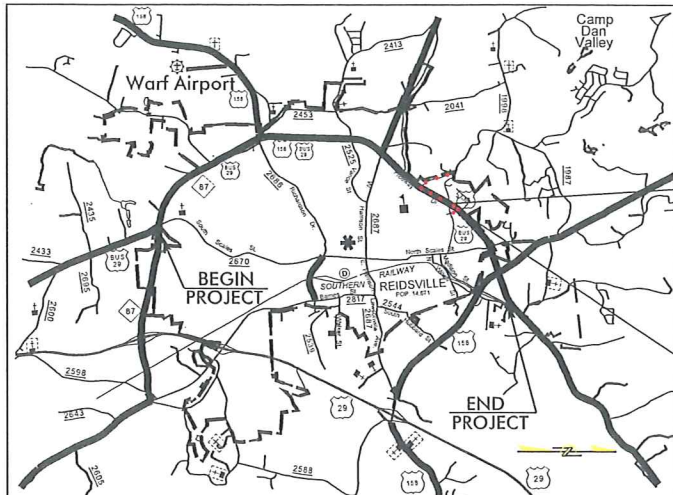
LOCATION: US 29 BUSINESS (FREEWAY DRIVE) FROM SR 2670
(SOUTH SCALES STREET) TO NC 14 IN REIDSVILLE

PERMIT DRAWINGS

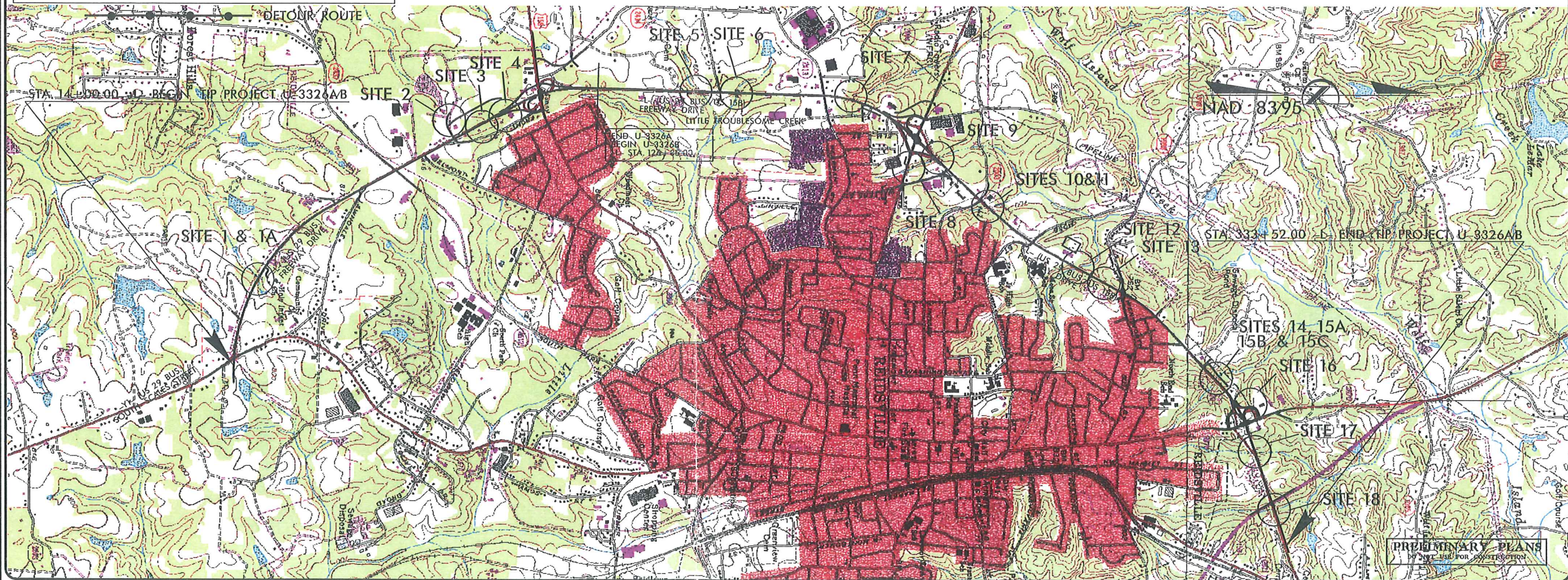
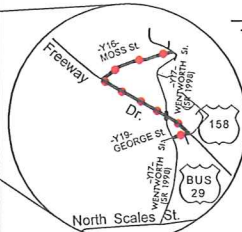
SURFACE WATER & WETLAND IMPACTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3326AB	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34924.1.1	STP-29B(1)	P.E.	

Permit Drawing
Sheet 30 of 58



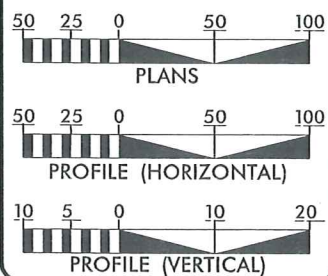
VICINITY MAP



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 20260
 ADT 2035 = 41000
 DHV = 10 %
 D = 55 %
 T = 11 % *
 V = 50 MPH
 * TTST 5% DUAL 6%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3326AB = 5.914 MI
 LENGTH STRUCTURE TIP PROJECT U-3326AB = 0.138 MI
 TOTAL LENGTH OF TIP PROJECT U-3326AB = 6.052 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 17, 2008
LETTING DATE: OCTOBER 19, 2010

JAMES A. SPEER, PE
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
 ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



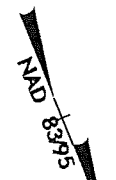
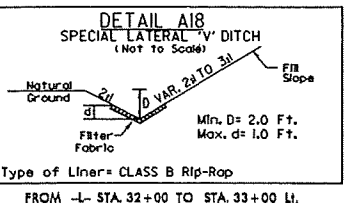
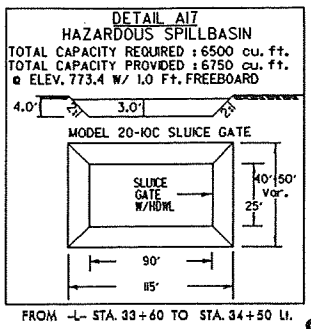
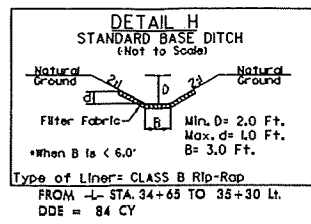
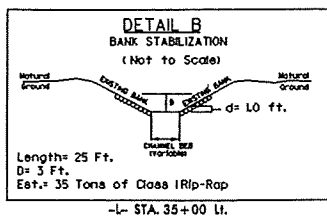
STATE HIGHWAY DESIGN ENGINEER

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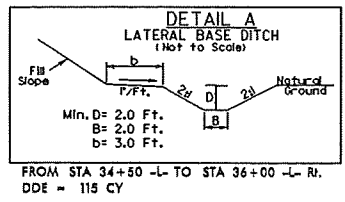
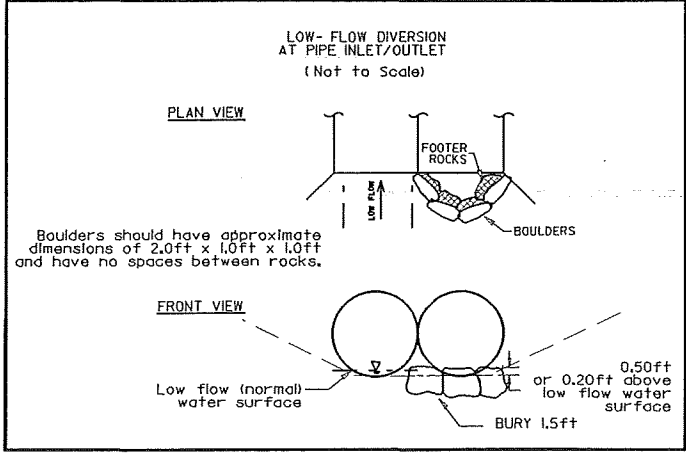
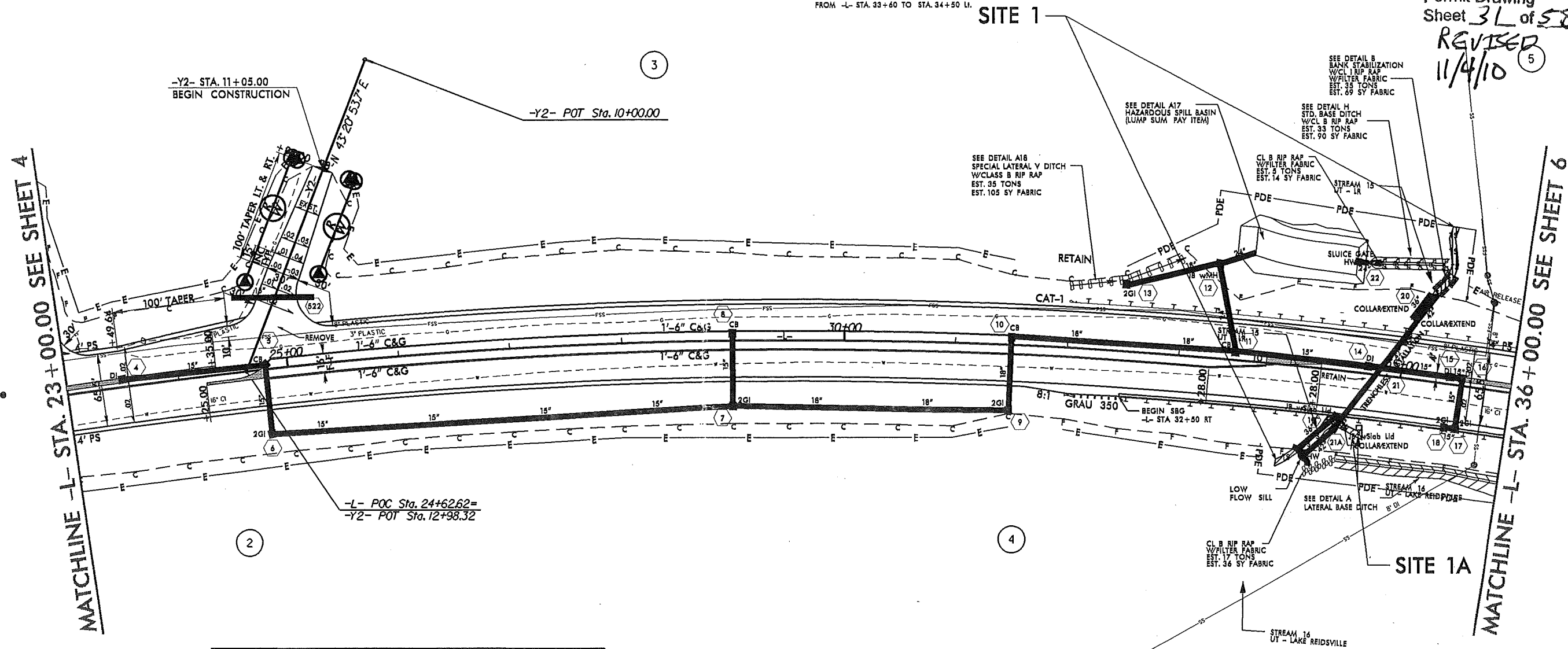
REVISED JAN 25, 2010
added site 1A

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

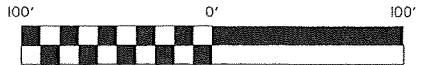
Permit Drawing
Sheet 3L of 58
REVISED
11/4/10



REVISIONS
 06/08/09 R.W. REVISION (P.I.S.) - PERMANENT DRAINAGE EASEMENT WAS EXTENDED ON PARCEL 6 (HOLY INEANT CATHOLIC CHURCH) 15 FEET BACK TO START AT STA -L- 31+95.00 RT TO ACCOMMODATE THE REALIGNMENT OF THE 36 AND 42 PIPES TO THE EXISTING STREAM.

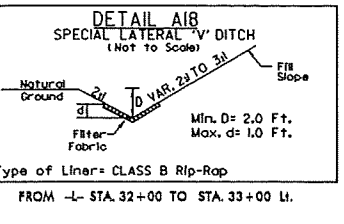
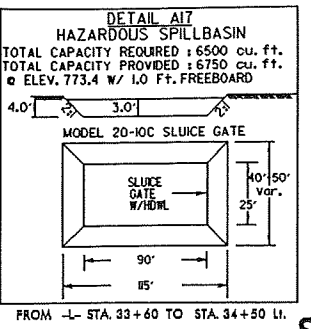
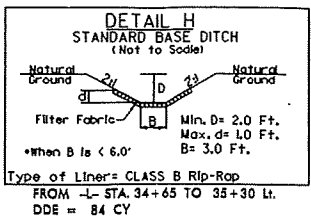
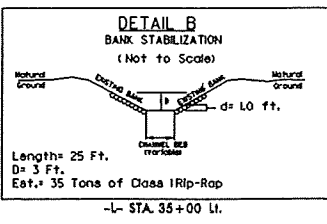


DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

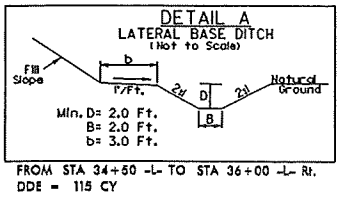
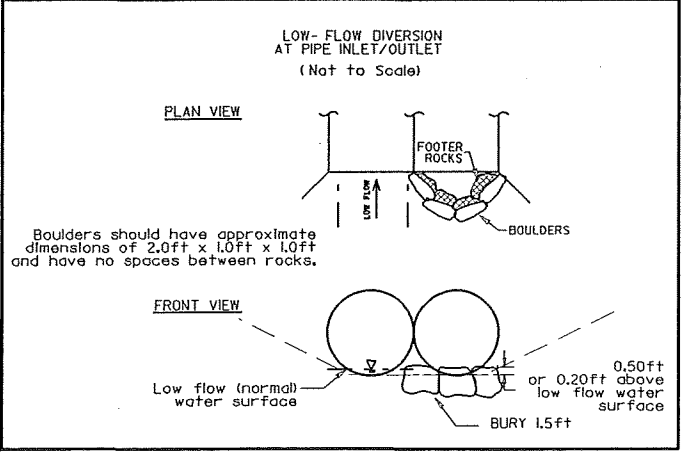
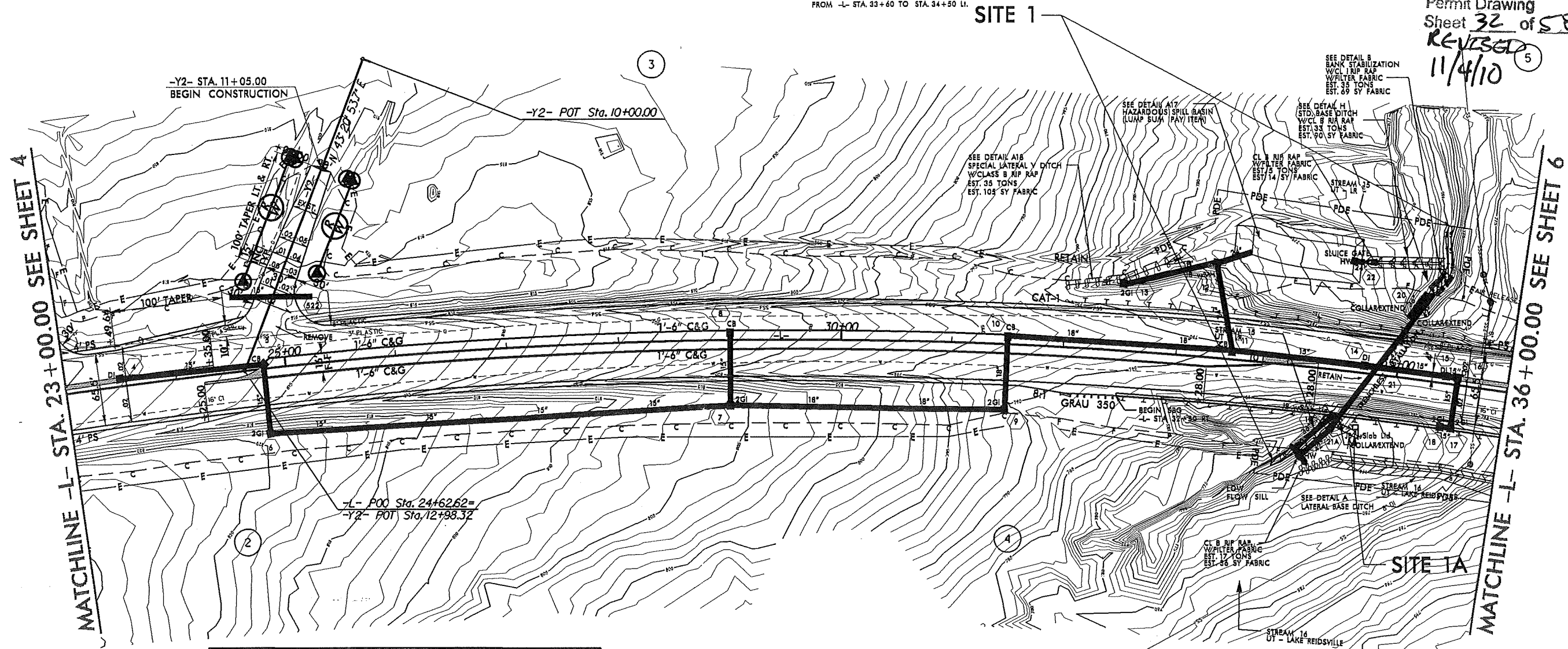


SBG=SHOULDER BERM GUTTER
 SEE SHEET 30 FOR -L- PROFILE
 SEE SHEET 43 FOR -Y2- PROFILE

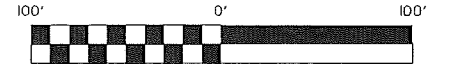
PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 5
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 32 of 58
REVISED
11/4/10

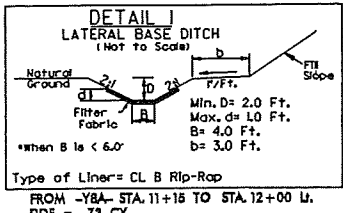
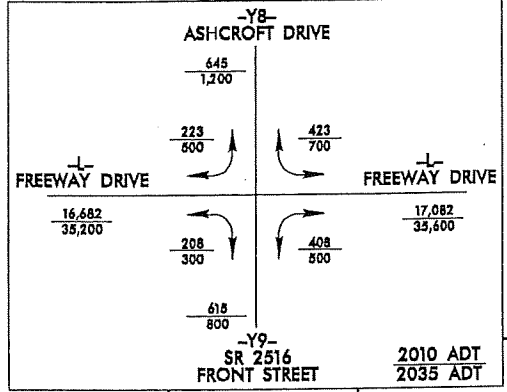


- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

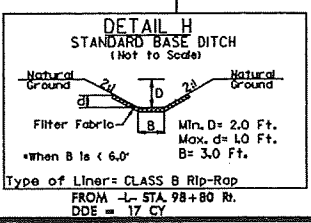
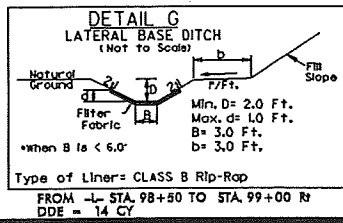
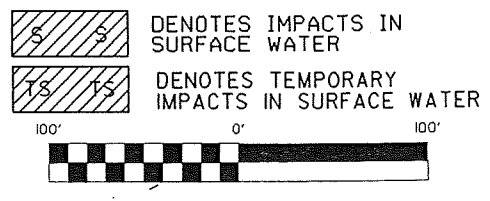
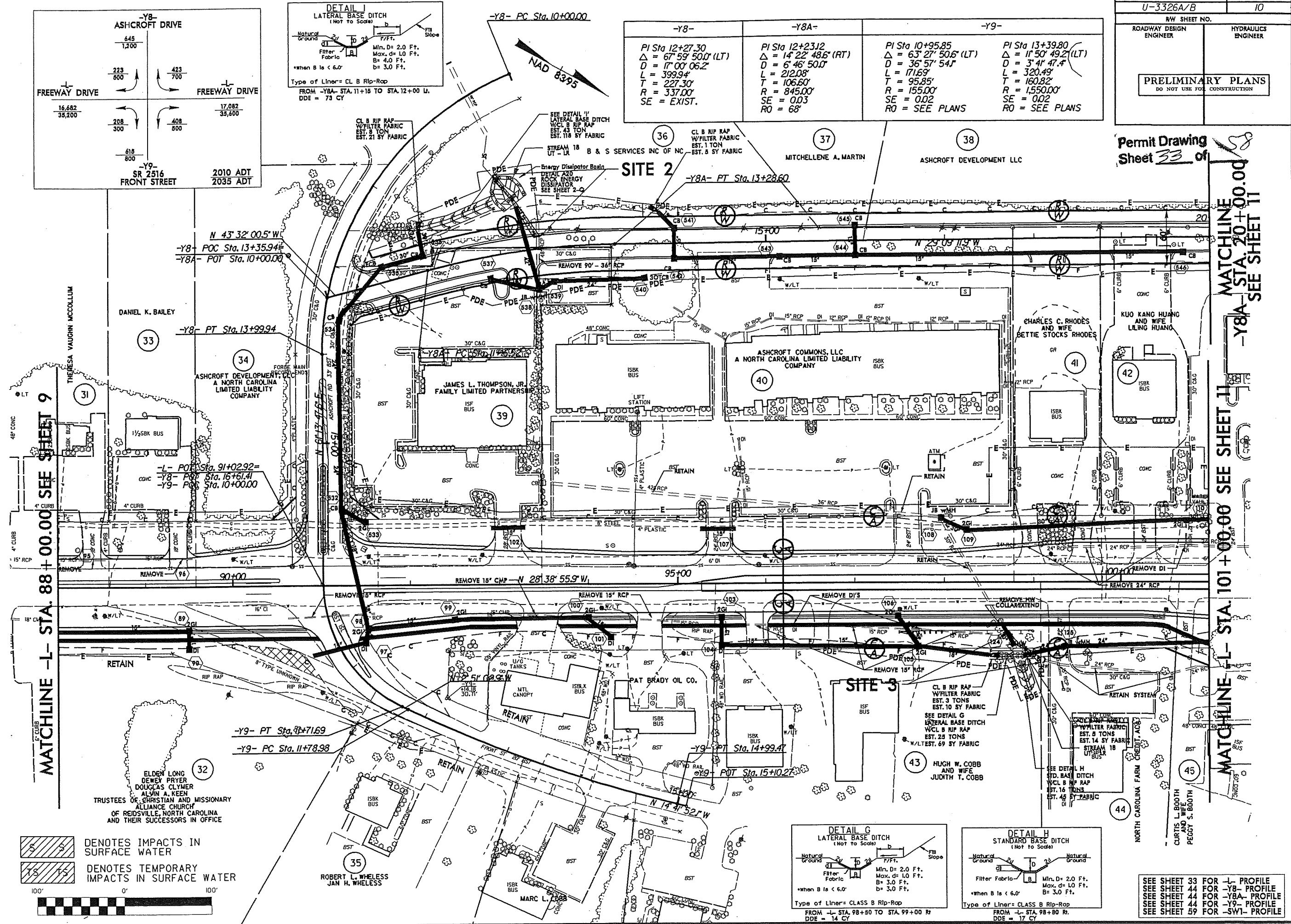


SBG=SHOULDER BERM GUTTER
SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 43 FOR -Y2- PROFILE

REVISIONS
 06/08/09 R/W REVISION (P/S) - PERMANENT DRAINAGE EASEMENT WAS EXTENDED ON PARCEL 6 (HOLY INFANT CATHOLIC CHURCH) 15 FEET BACK TO START AT STA. -L- 33+95.00 FT. TO ACCOMMODATE THE REALIGNMENT OF THE 36" AND 42" PIPES TO THE EXISTING STREAM
 8/17/99



-Y8-	-Y8A-	-Y9-	
PI Sta 12+27.30 Δ = 67° 59' 50.0" (LT) D = 17' 00" 06.2" L = 399.94' T = 227.30' R = 337.00' SE = EXIST.	PI Sta 12+23.12 Δ = 14° 22' 48.6" (RT) D = 6' 46" 50.0" L = 212.08' T = 106.60' R = 845.00' SE = 0.03 RO = 68'	PI Sta 10+95.85 Δ = 63° 27' 50.6" (LT) D = 36° 57' 54.7" L = 171.69' T = 95.85' R = 155.00' SE = 0.02 RO = SEE PLANS	PI Sta 13+39.80 Δ = 11° 50' 49.2" (LT) D = 3' 41' 47.4" L = 320.49' T = 160.82' R = 1,550.00' SE = 0.02 RO = SEE PLANS



SEE SHEET 33 FOR -L- PROFILE
 SEE SHEET 44 FOR -Y8- PROFILE
 SEE SHEET 44 FOR -Y8A- PROFILE
 SEE SHEET 44 FOR -Y9- PROFILE
 SEE SHEET 59 FOR -SW1- PROFILE

Permit Drawing
 Sheet 33 of 38

MATCHLINE -Y8A- STA. 20+00.00 SEE SHEET 11

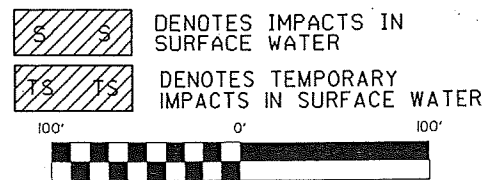
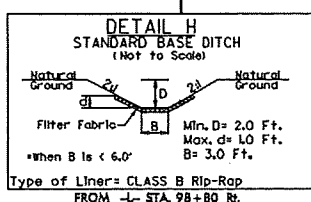
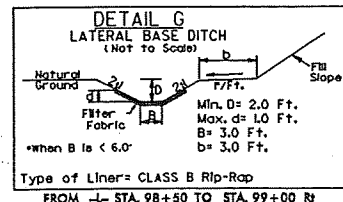
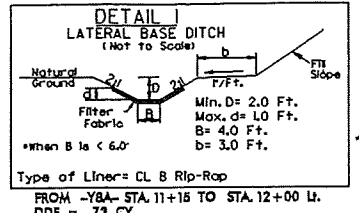
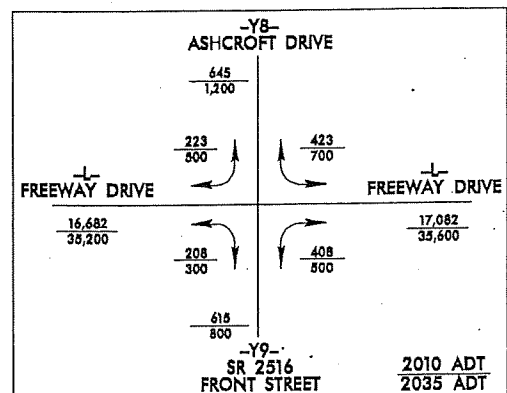
MATCHLINE -L- STA. 101+00.00 SEE SHEET 11

REVISIONS

8/17/99

JULY 2009 IFC
 Environmental Drawings \3326_rdy_psh_s10.dgn
 10:12:22 AM

-Y8-	-Y8A-	-Y9-	
PI Sta 12+27.30 Δ = 67° 59' 50.0" (LT) D = 17' 00" 06.2" L = 399.94' T = 227.30' R = 337.00' SE = EXIST.	PI Sta 12+23.12 Δ = 14° 22' 48.6" (RT) D = 6' 46' 50.0" L = 212.08' T = 106.60' R = 845.00' SE = 0.03 RO = 68°	PI Sta 10+95.85 Δ = 63° 27' 50.6" (LT) D = 36' 57' 54.1" L = 171.69' T = 95.85' R = 155.00' SE = 0.02 RO = SEE PLANS	PI Sta 13+39.80 Δ = 11° 50' 49.2" (LT) D = 3' 41' 47.4" L = 320.49' T = 160.82' R = 1550.00' SE = 0.02 RO = SEE PLANS

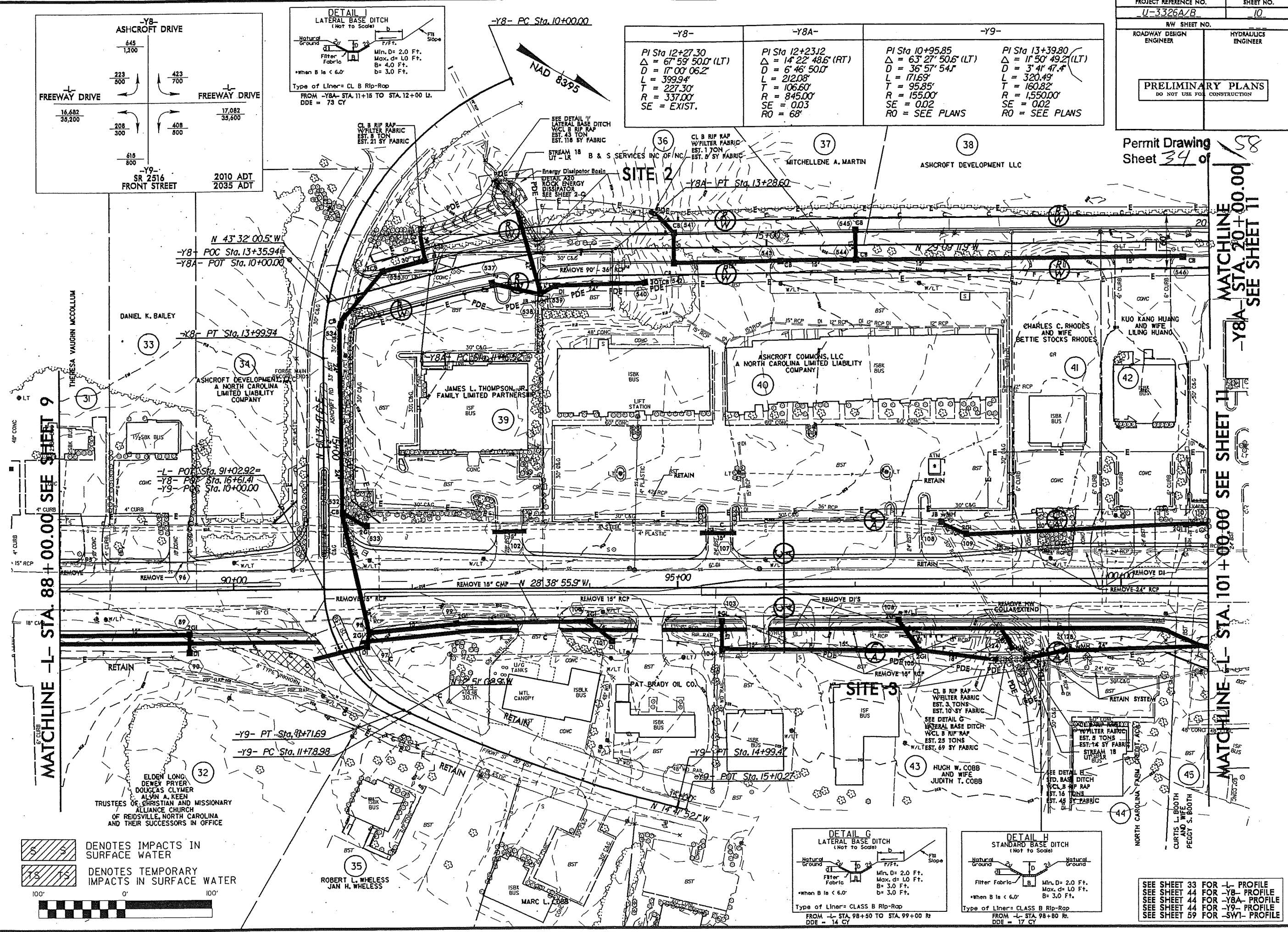


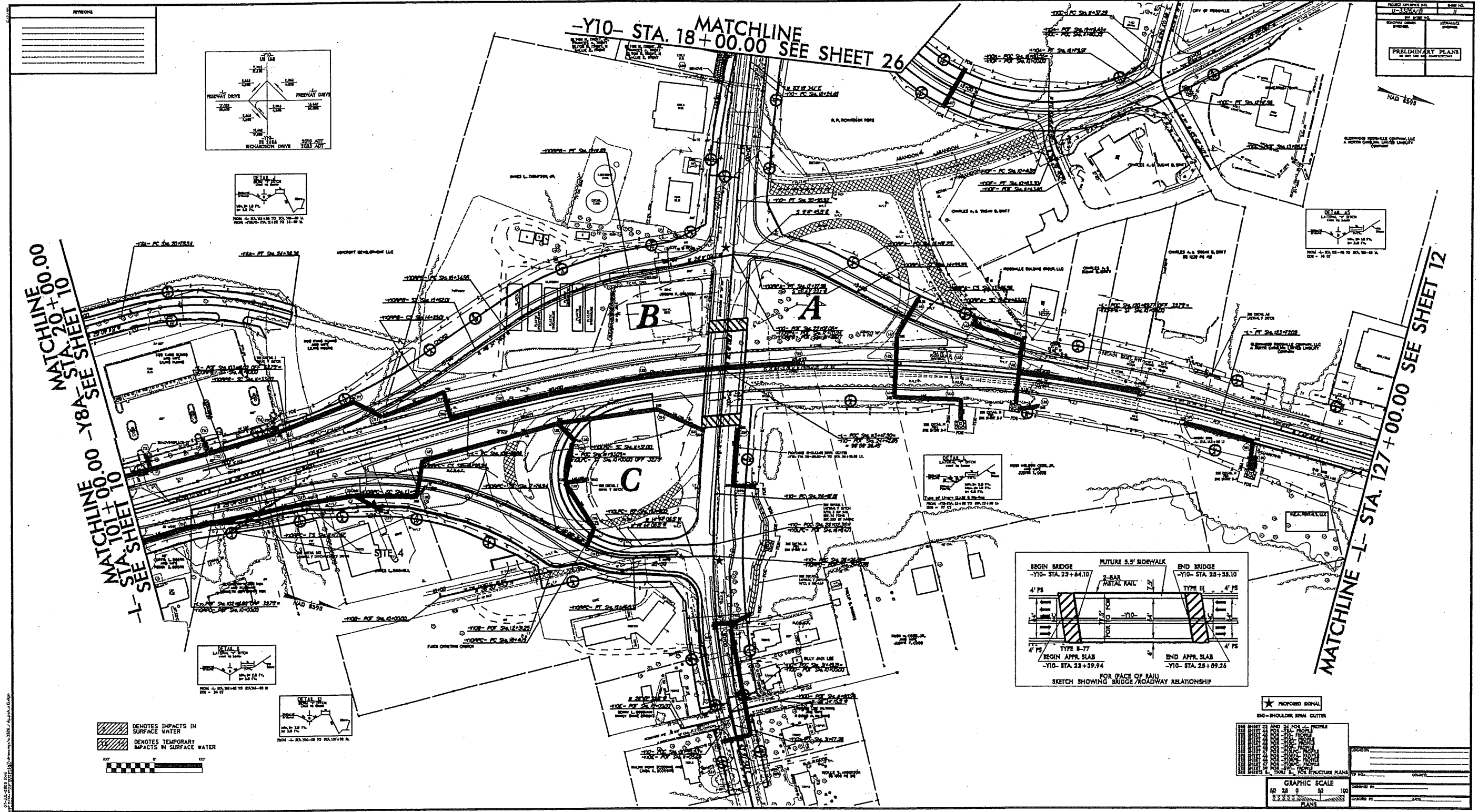
8/17/99
 REVISIONS
 31-JUL-2009 JLE
 3326A/B Environmental Drawings V:\3326A/B\rdw\ash_csh_110.dwg

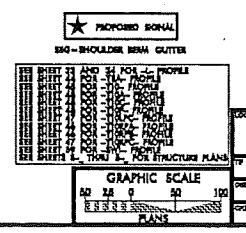
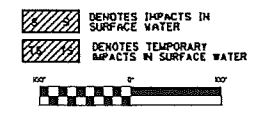
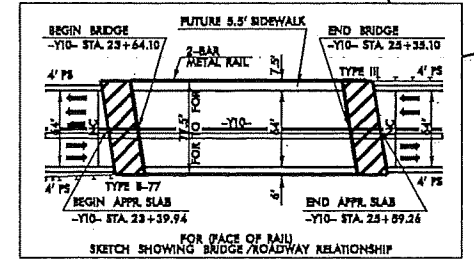
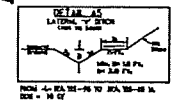
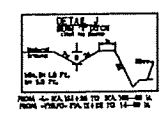
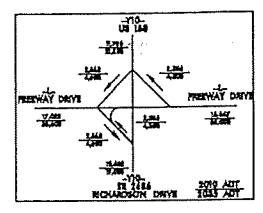
MATCHLINE -L- STA. 88+00.00 SEE SHEET 9

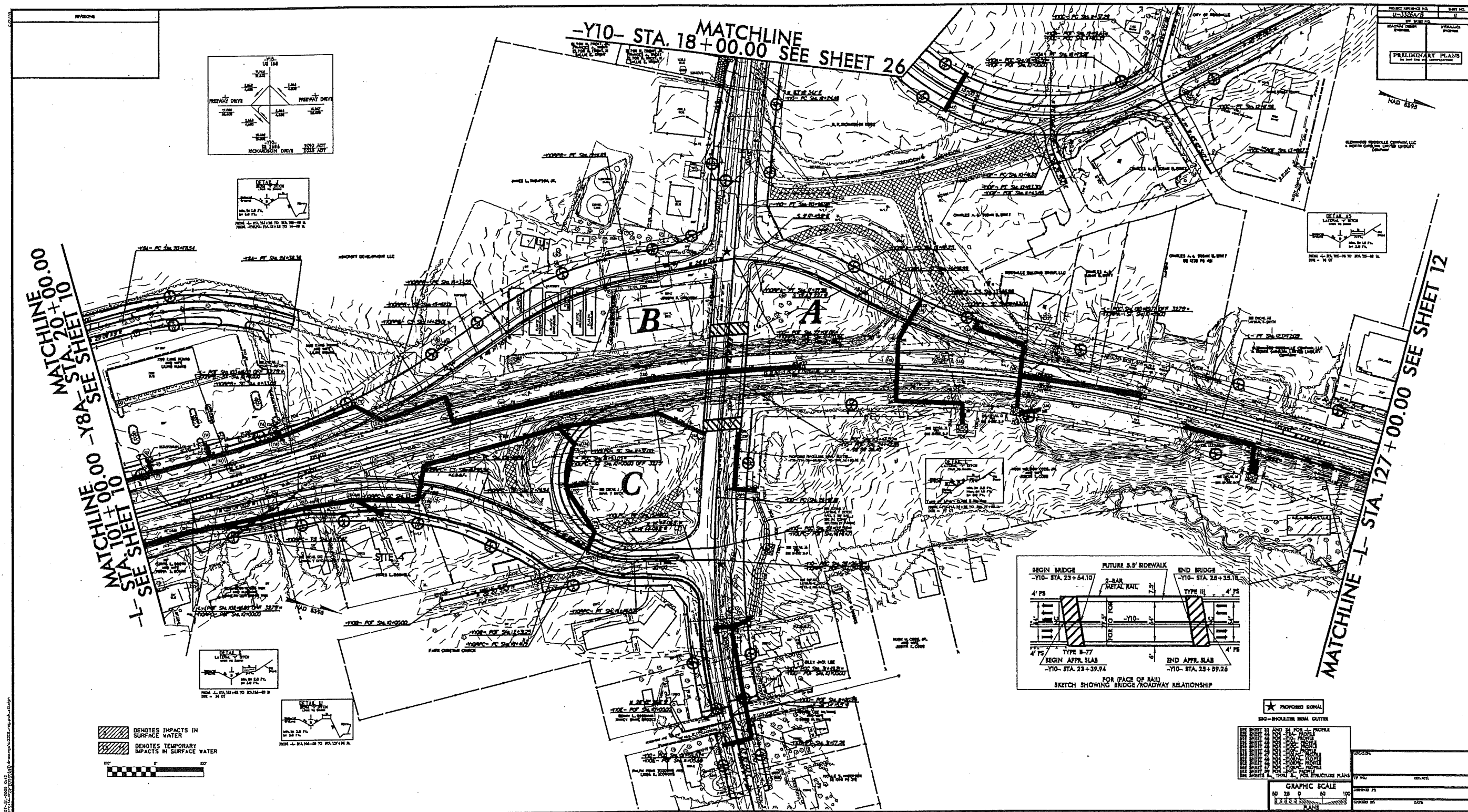
MATCHLINE -Y8A- STA. 20+00.00 SEE SHEET 11
 MATCHLINE -L- STA. 101+00.00 SEE SHEET 11
 MATCHLINE -L- STA. 101+00.00 SEE SHEET 11

Permit Drawing
Sheet 34 of 38

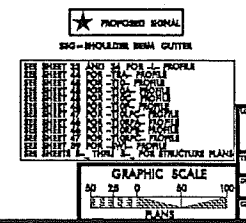
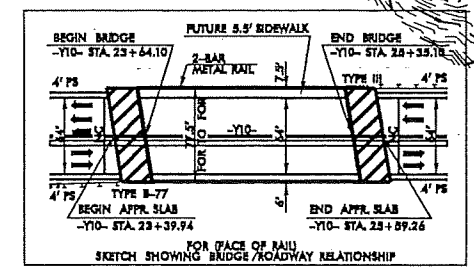
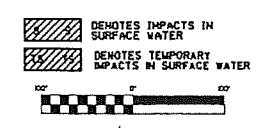
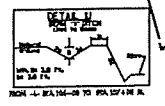
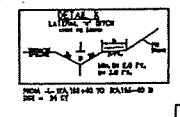
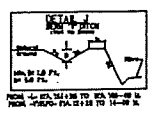
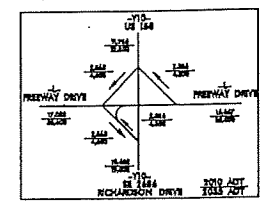




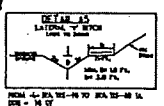




MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 26
 MATCHLINE -Y10- STA. 20+00.00 SEE SHEET 10
 MATCHLINE -Y10- STA. 127+00.00 SEE SHEET 12



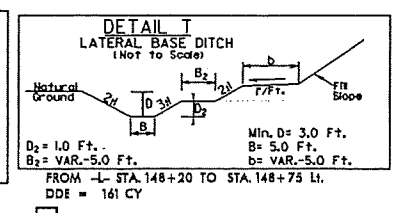
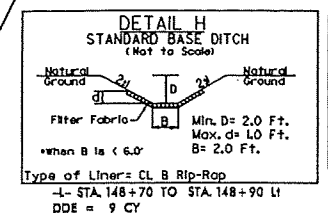
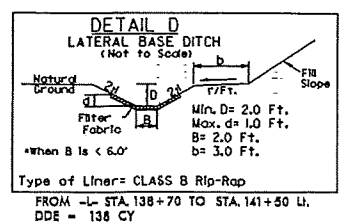
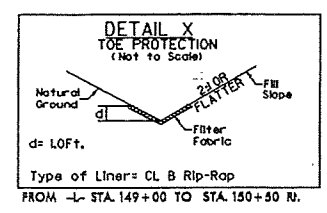
PROJECT NO.	DATE
12345678	11/11/11
DESIGNER	SCALE
PRELIMINARY PLANS	AS SHOWN



8/17/99

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

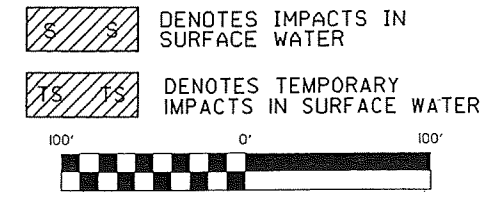
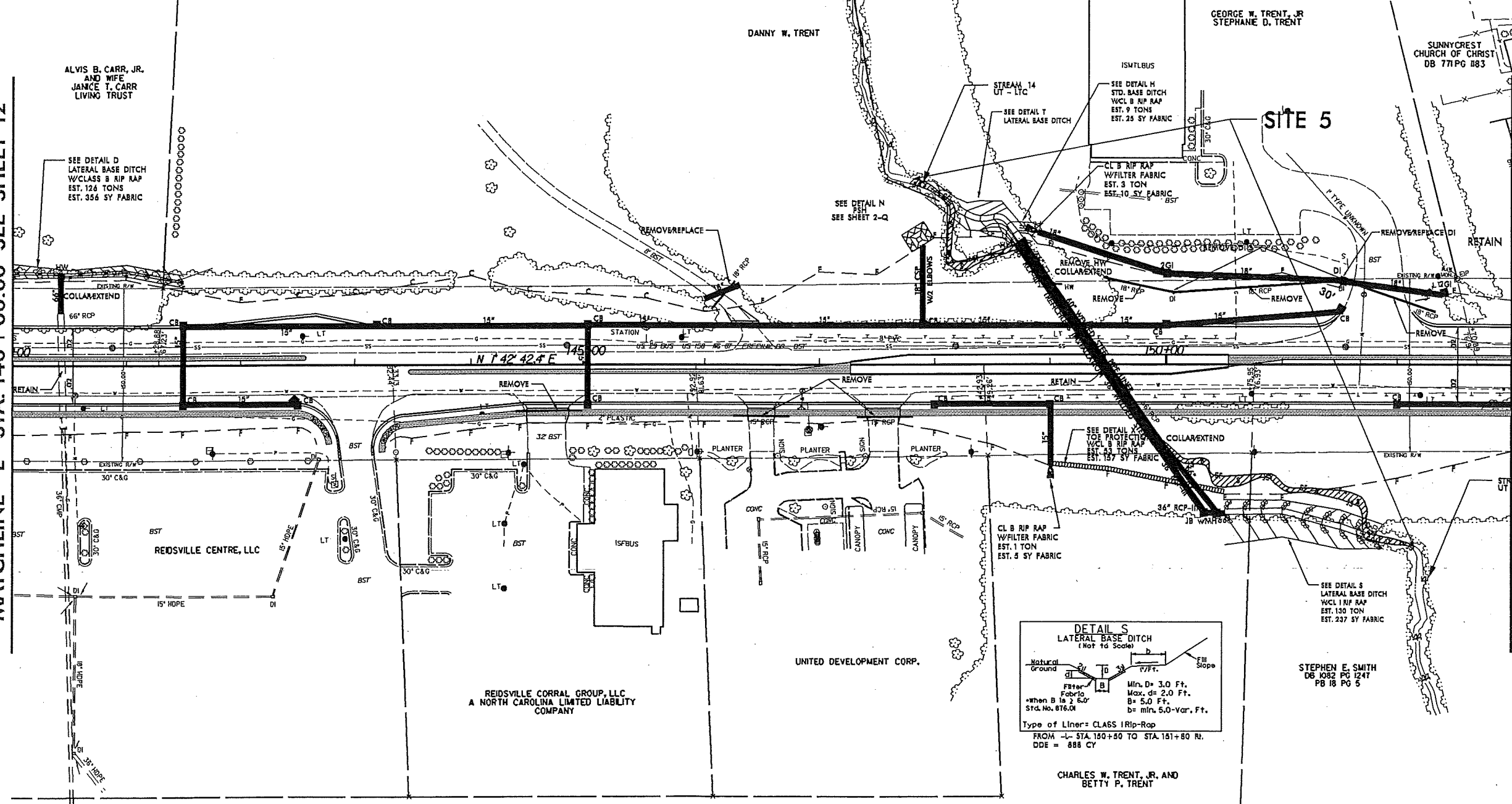
NAD 8395



Permit Drawing
Sheet 37 of 58

MATCHLINE -L- STA. 140+00.00 SEE SHEET 12

MATCHLINE -L- STA. 153+00.00 SEE SHEET 14



SEE SHEET 35 FOR -L- PROFILE

REVISIONS

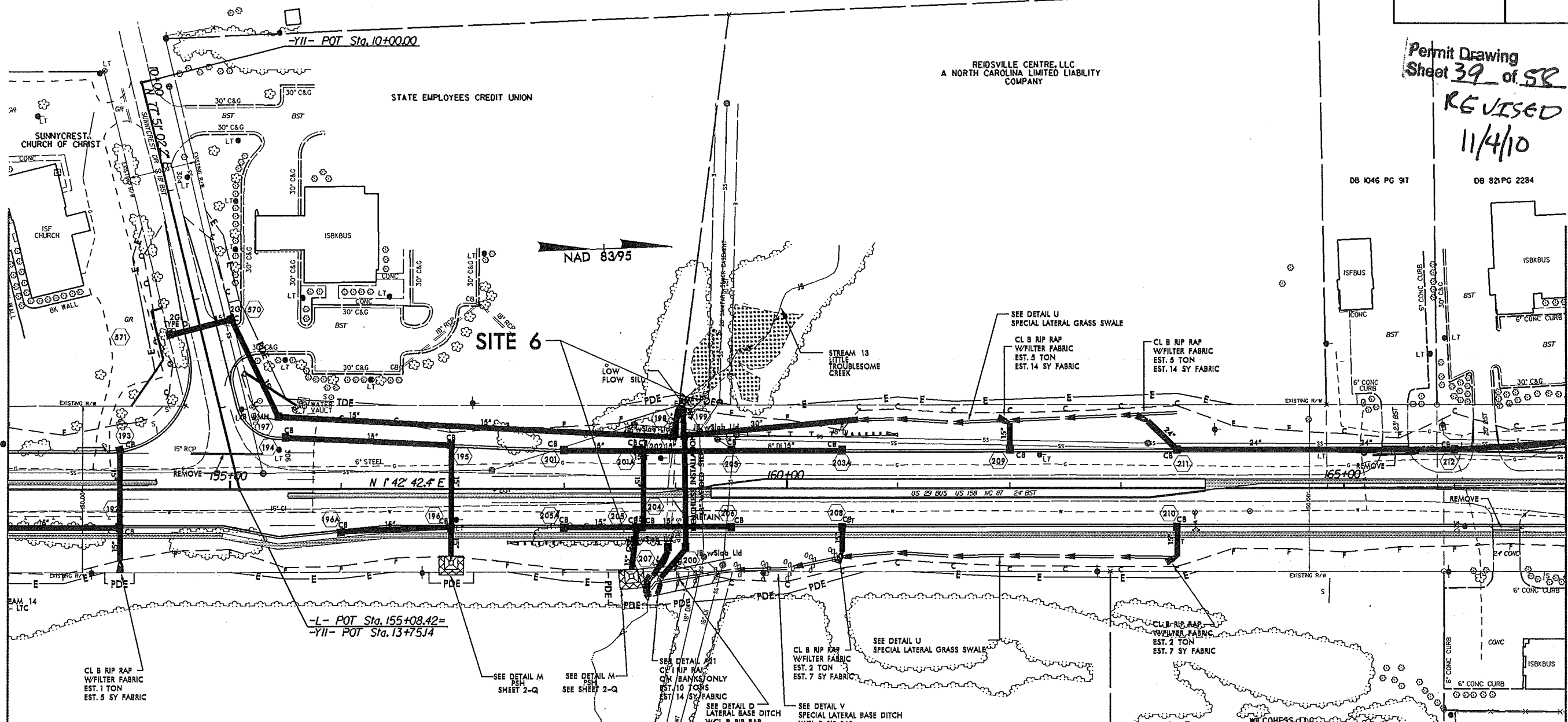
SYSTIME 8/17/99

NAD 8395

8/17/99

MATCHLINE -L- STA. 153+00.00 SEE SHEET 13

MATCHLINE -L- STA. 167+00.00 SEE SHEET 15

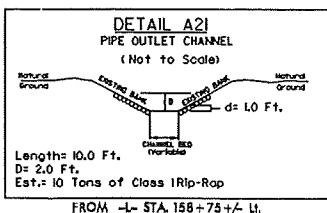
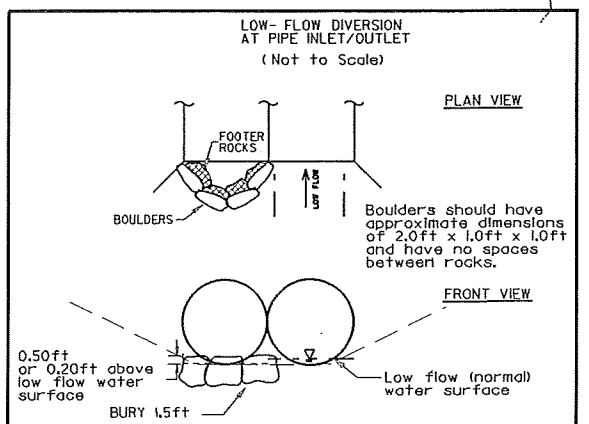
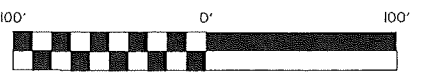


Permit Drawing
Sheet 39 of 52
REVISED
11/4/10

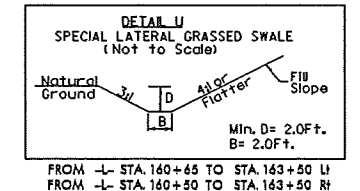
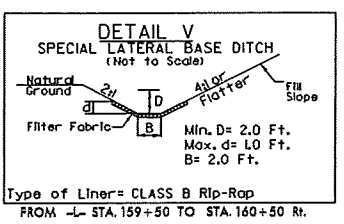
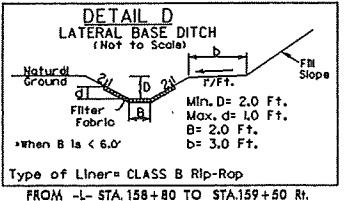
DB 1046 PG 97 DB 821 PG 2284

NAD 8395

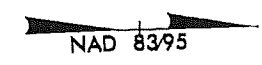
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



STEPHEN E. SMITH
DB 1082 PG 1247
PB 18 PG 5



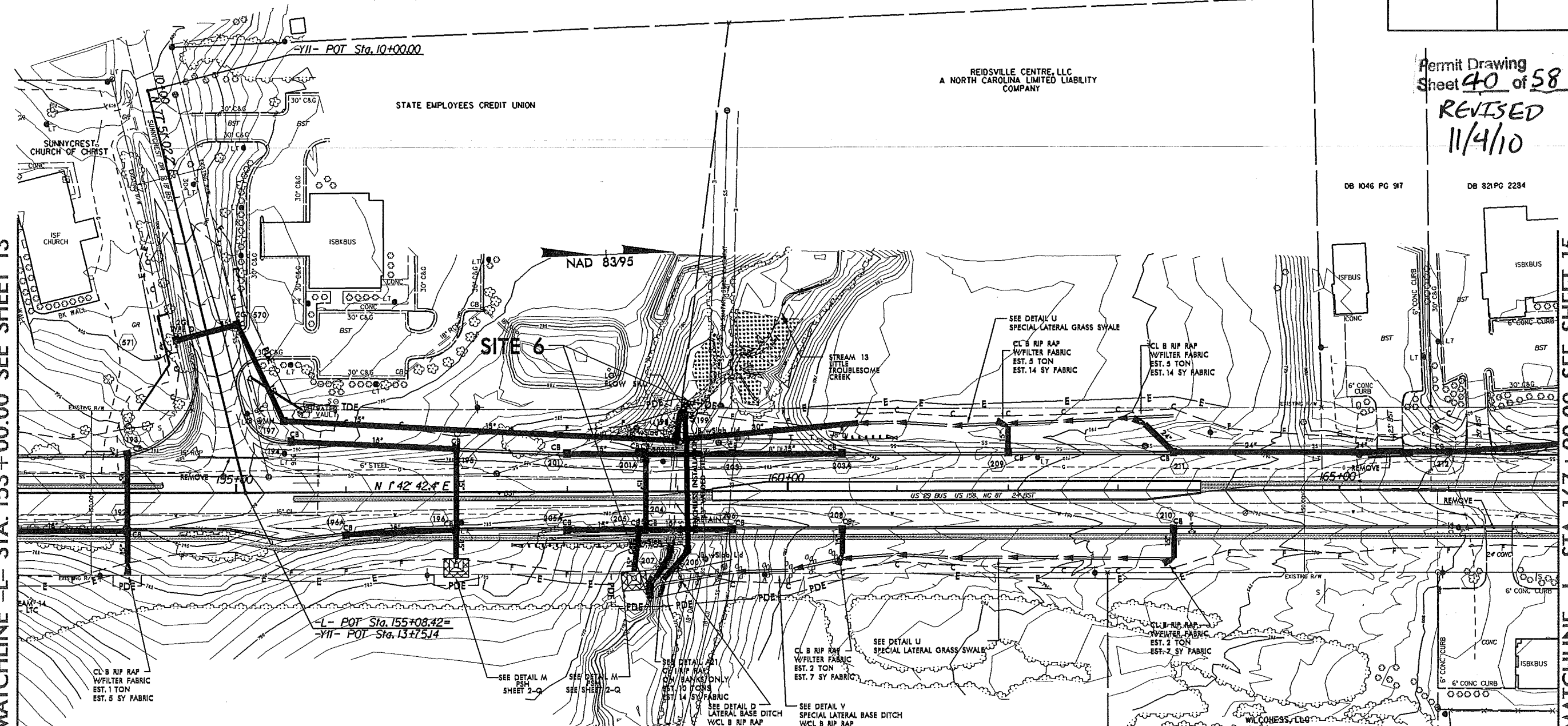
PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



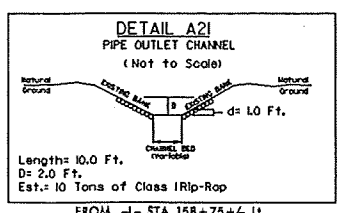
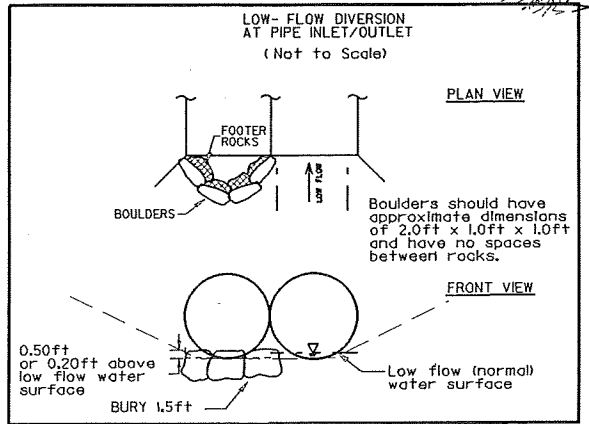
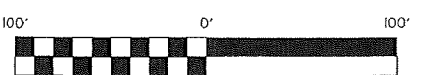
8/17/99

MATCHLINE -L- STA. 153+00.00 SEE SHEET 13

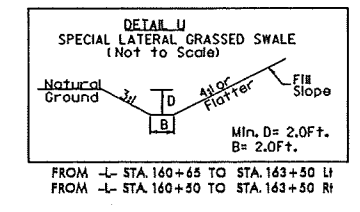
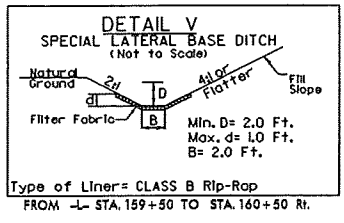
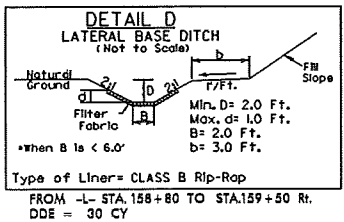
MATCHLINE -L- STA. 167+00.00 SEE SHEET 15



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



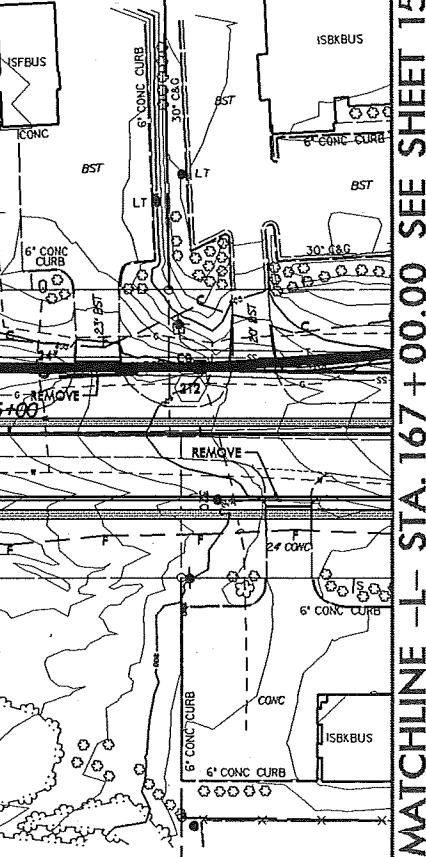
STEPHEN E. SMITH
DB 1082 PG 124T
PB 13 PG 5



Permit Drawing
Sheet 40 of 58
REVISED
11/4/10

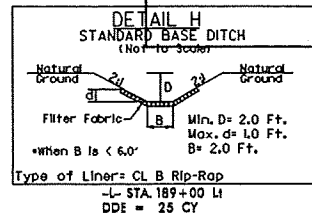
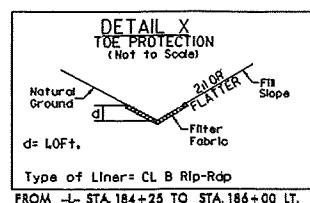
DB 1046 PG 917

DB 821 PG 2284



-L-	-Y12C-
PI Sta 186+88.71	PI Sta 12+87.38
$\Delta = 31^{\circ} 56' 07.0''$ (RT)	$\Delta = 13^{\circ} 10' 39.5''$ (RT)
$D = 1^{\circ} 58' 44.9''$	$D = 3^{\circ} 49' 11.0''$
$L = 1613.60'$	$L = 344.99'$
$T = 828.36'$	$T = 173.26'$
$R = 2,895.00'$	$R = 1,500.00'$
$SE = 0.03$	$SE = 0.02$
$RO = 108'$	$RO = \text{SEE PLANS}$

Permit Drawing
Sheet 41 of 58
REVISED
11/4/10
CL B RIP RAP
W/FILTER FABRIC
EST. 7 TONS
EST. 7 SY FABRIC

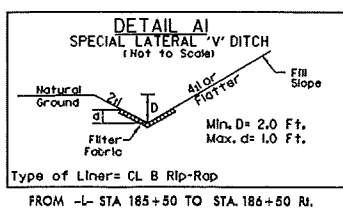
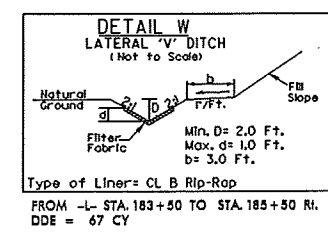
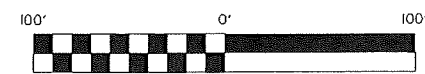


MATCHLINE -L- STA. 181+00.00 SEE SHEET 15

MATCHLINE -L- STA. 192+00.00 SEE SHEET 17

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -Y12B- STA. 14+00.00 SEE SHEET 17

-Y12B- STA. 12+80.00
END CONSTRUCTION

SITE 7
JURISDICTIONAL STREAM
BEGINS HERE

SEE DETAIL X
TOE PROTECTION
WCL B RIP RAP
EST. 61 TONS
EST. 184 SY FABRIC

CL B RIP RAP
W/FILTER FABRIC
EST. 6 TONS
EST. 11 SY FABRIC

REMOVE PES
COLLAREXTEND

RETAIN EXIST. RW

CL B RIP RAP
W/FILTER FABRIC
EST. 2 TONS
EST. 7 SY FABRIC

SEE DETAIL AI
SPECIAL LATERAL V DITCH
WCL B RIP RAP
EST. 35 TONS
EST. 105 SY FABRIC

-Y12B- POT Sta. 11+02.07 =
-Y12C- POT Sta. 10+00.00

-Y12C- PC Sta. 11+14.13

REVISIONS
03/23/09 R.W. REVISION (P.S.I.) - ADDED PERMANENT UTILITY EASEMENT AND REVISED TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 90 (ROCKINGHAM COUNTY)

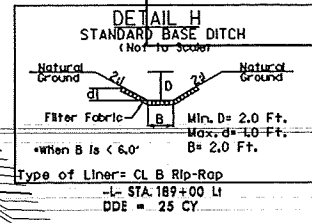
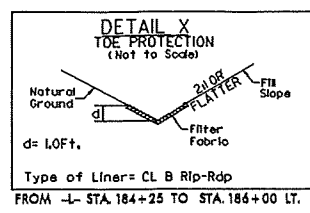
8/17/99

SEE SHEET 36 FOR -L- PROFILE
SEE SHEET 49 FOR -Y12B- PROFILE
SEE SHEET 49 FOR -Y12C- PROFILE

-L-	-Y12C-
PI Sta 186+88.71	PI Sta 12+87.38
$\Delta = 31' 56" 07.0" (RT)$	$\Delta = 13' 10" 39.5" (RT)$
$D = 1' 58" 44.9"$	$D = 3' 49" 11.0"$
$L = 1,613.60'$	$L = 3,449.9'$
$T = 828.36'$	$T = 173.26'$
$R = 2,895.00'$	$R = 1,500.00'$
$SE = 0.03$	$SE = 0.02$
$RO = 108'$	$RO = \text{SEE PLANS}$

Permit Drawing
Sheet 42 of 58
REVISED
11/4/10

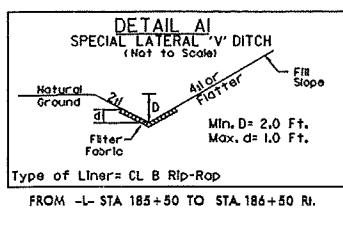
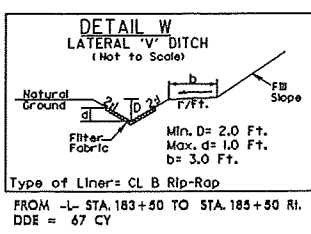
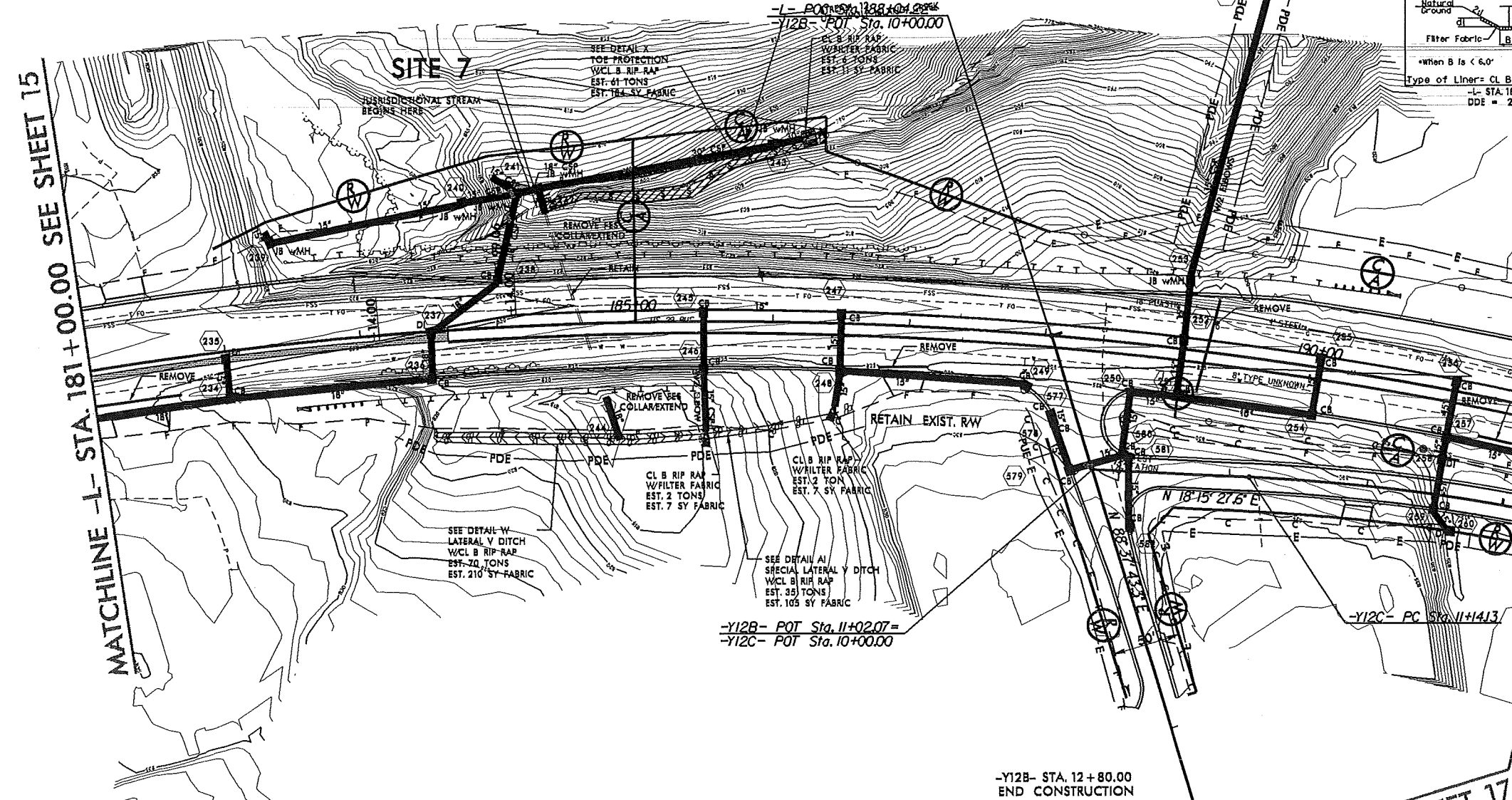
NAD 83/95



SITE 7

MATCHLINE -L- STA. 181+00.00 SEE SHEET 15

MATCHLINE -L- STA. 192+00.00 SEE SHEET 17



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



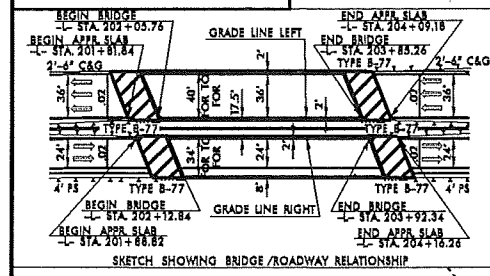
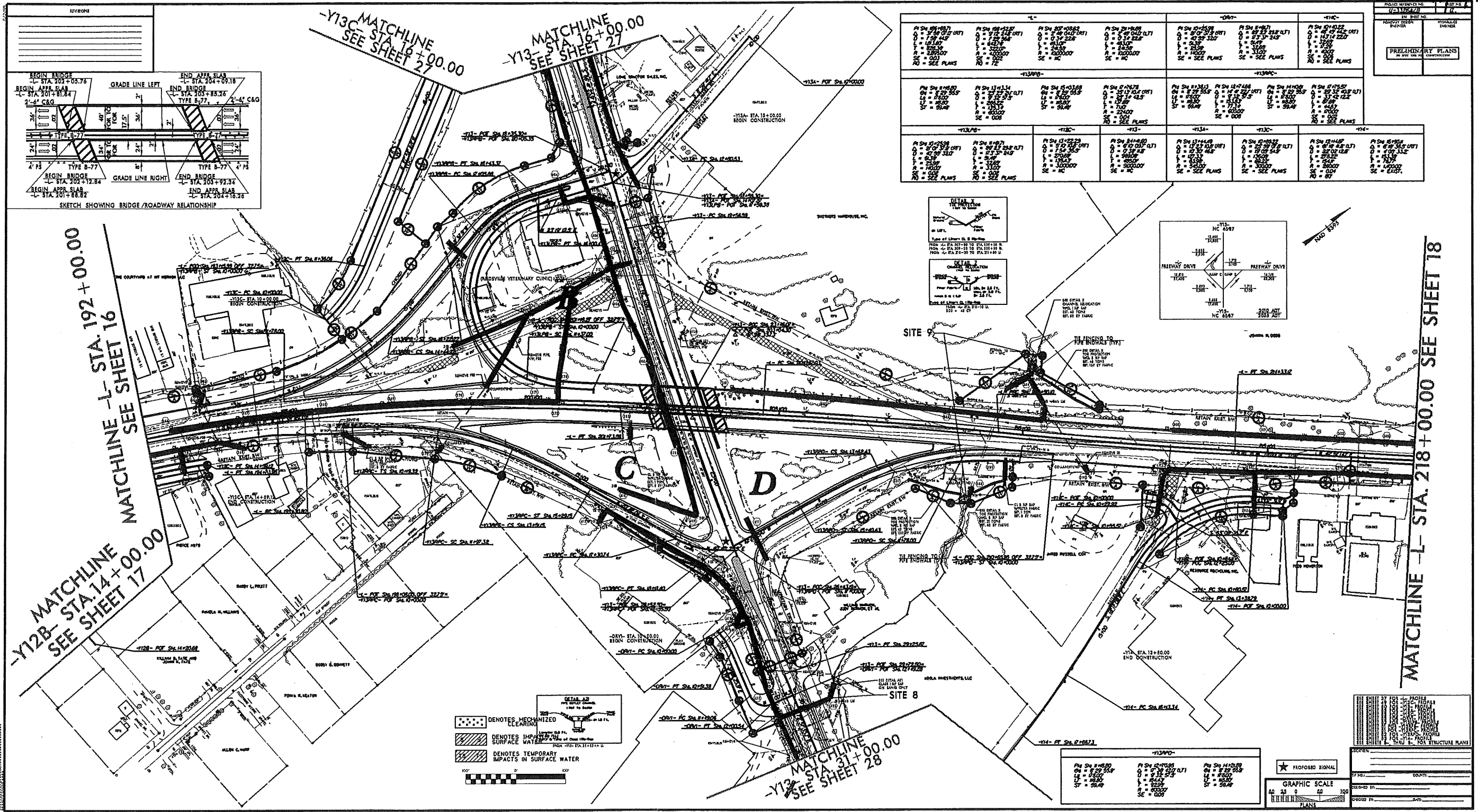
MATCHLINE -Y12B- STA. 14+00.00 SEE SHEET 17

-Y12B- STA. 12+80.00
END CONSTRUCTION

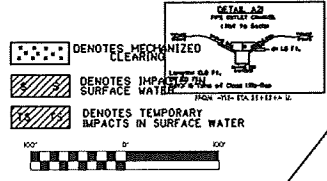
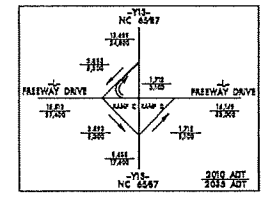
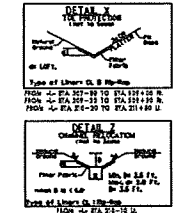
SEE SHEET 36 FOR -L- PROFILE
SEE SHEET 49 FOR -Y12B- PROFILE
SEE SHEET 49 FOR -Y12C- PROFILE

REVISIONS
03/23/09 R.W. REVISION (P.I.S.) - ADDED PERMANENT UTILITY EASEMENT AND REVISED TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 90, ROCKINGHAM COUNTY

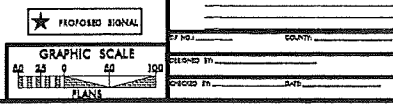
8/17/99



-Y13A-		-Y13B-		-Y13C-		-Y13D-	
PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00
CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00
LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00
SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00
SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00
NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS

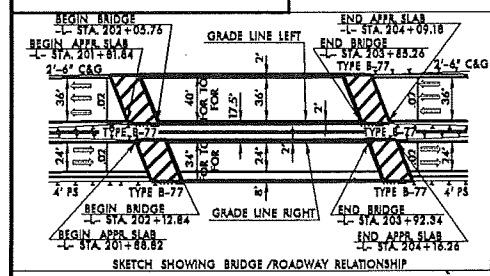
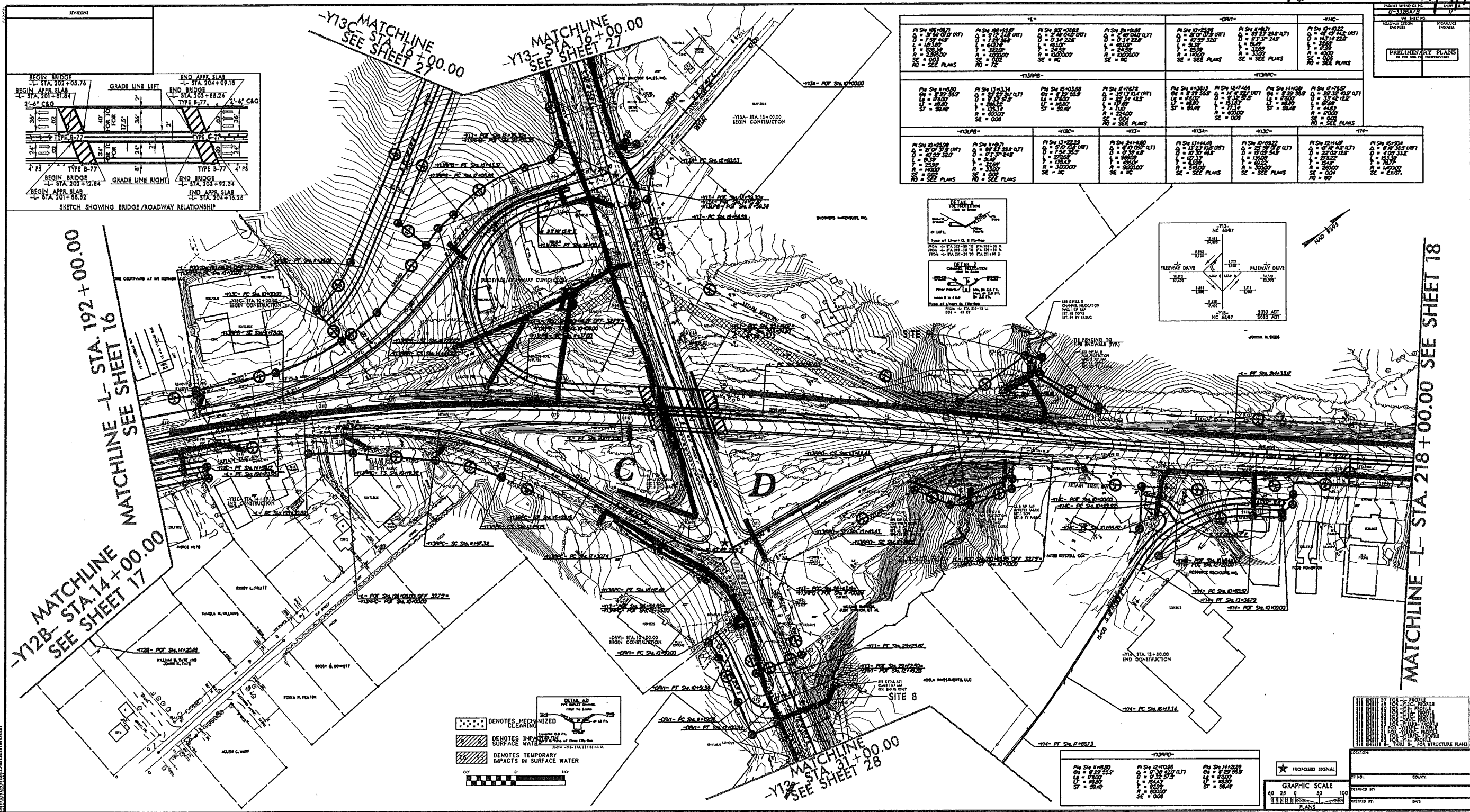


-Y13A-		-Y13B-		-Y13C-		-Y13D-	
PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00	PC STA 19+87.00	PT STA 19+87.00
CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00	CV = 100.00
LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00	LC = 100.00
SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00	SC = 100.00
SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00	SE = 100.00
NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS	NO = SEE PLANS

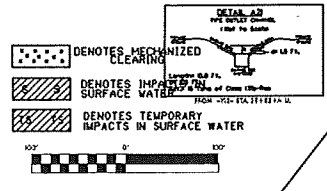
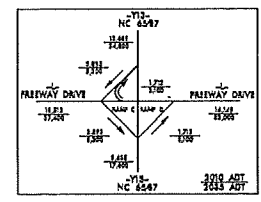
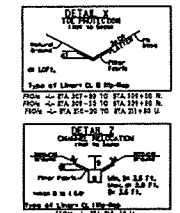


MATCHLINE -L- STA. 218+00.00 SEE SHEET 18

Permit Drawing
 Sheet 44 of 58
 REVISED 11/4/10



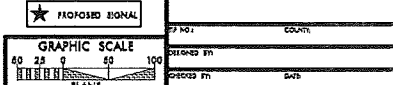
-Y13-		-Y14-		-Y15-		-Y16-		-Y17-		-Y18-	
PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00
Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00
L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00	L = 0.00
E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00	E = 0.00
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS



- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS TO SURFACE WATER
- DENOTES TEMPORARY IMPACTS TO SURFACE WATER



PC STA 192+00.00	PT STA 192+00.00	PC STA 192+00.00	PT STA 192+00.00
Q = 0.00	Q = 0.00	Q = 0.00	Q = 0.00
L = 0.00	L = 0.00	L = 0.00	L = 0.00
E = 0.00	E = 0.00	E = 0.00	E = 0.00
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS



MATCHLINE -L- STA. 192 + 00.00
 SEE SHEET 16

MATCHLINE -L- STA. 14 + 00.00
 SEE SHEET 17

MATCHLINE -L- STA. 218 + 00.00
 SEE SHEET 18

-Y13C- MATCHLINE
 STA 16 + 00.00
 SEE SHEET 27

-Y13- MATCHLINE
 STA 16 + 00.00
 SEE SHEET 27

-Y12- MATCHLINE
 STA. 31 + 00.00
 SEE SHEET 28

PRELIMINARY PLANS
 IN BLUE INK OR CONSTRUCTION

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 28
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

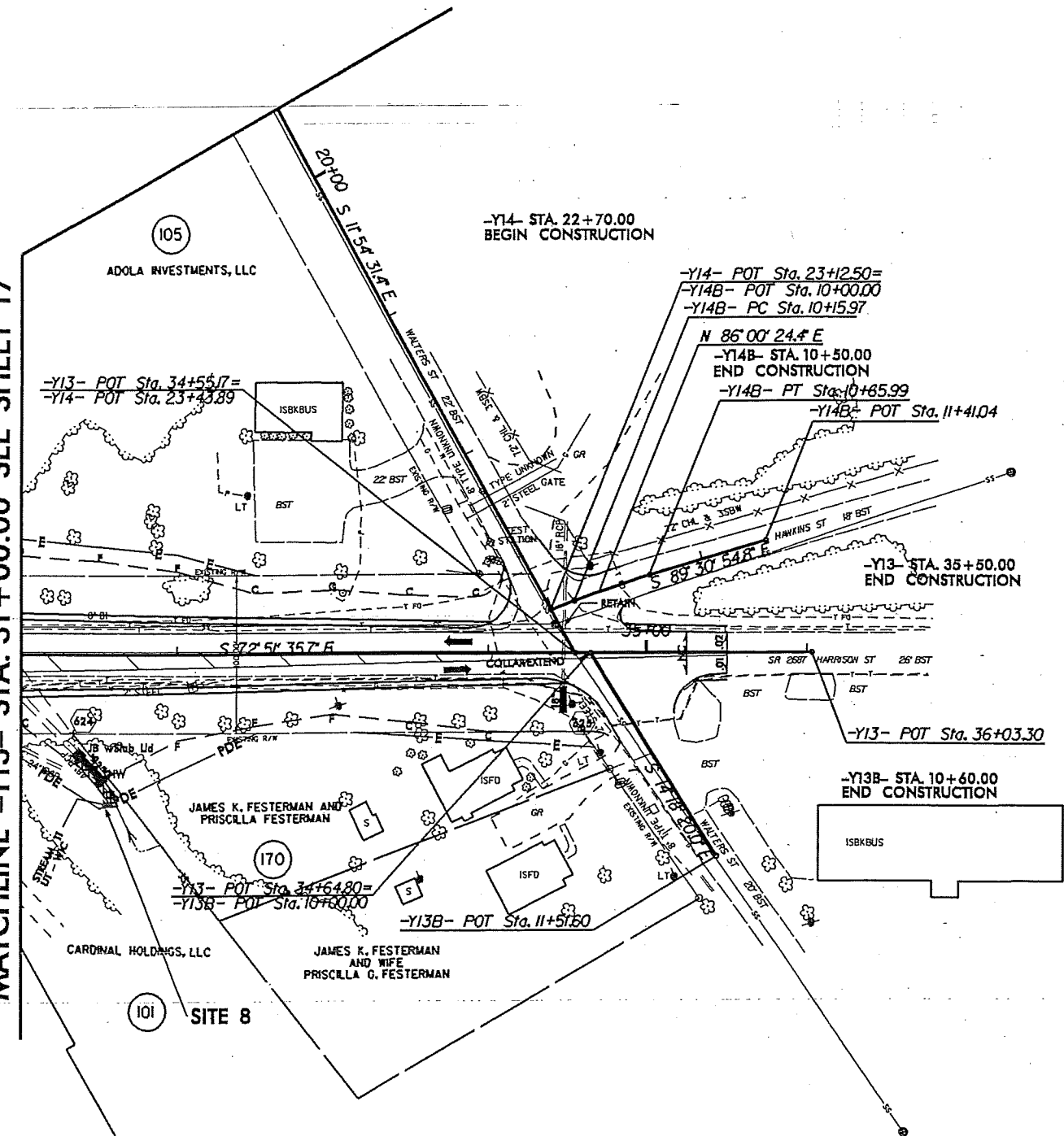
Permit Drawing
Sheet 45 of 58

-Y14B-

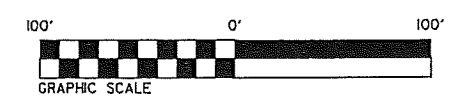
PI Sta 10+40.99
 $\Delta = 4' 28'' 40.8''$ (RT)
 $D = 8' 57'' 08.9''$
 $L = 50.02'$
 $T = 25.02'$
 $R = 640.00'$
 SE = EXIST.



MATCHLINE -Y13- STA. 31 + 00.00 SEE SHEET 17



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 50 FOR -Y13- PROFILE

REVISIONS

07-JUL-2009 10:47
 C:\Users\james\Documents\Drawings\3326A-B\3326A-B.dwg
 8/17/95

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 28
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

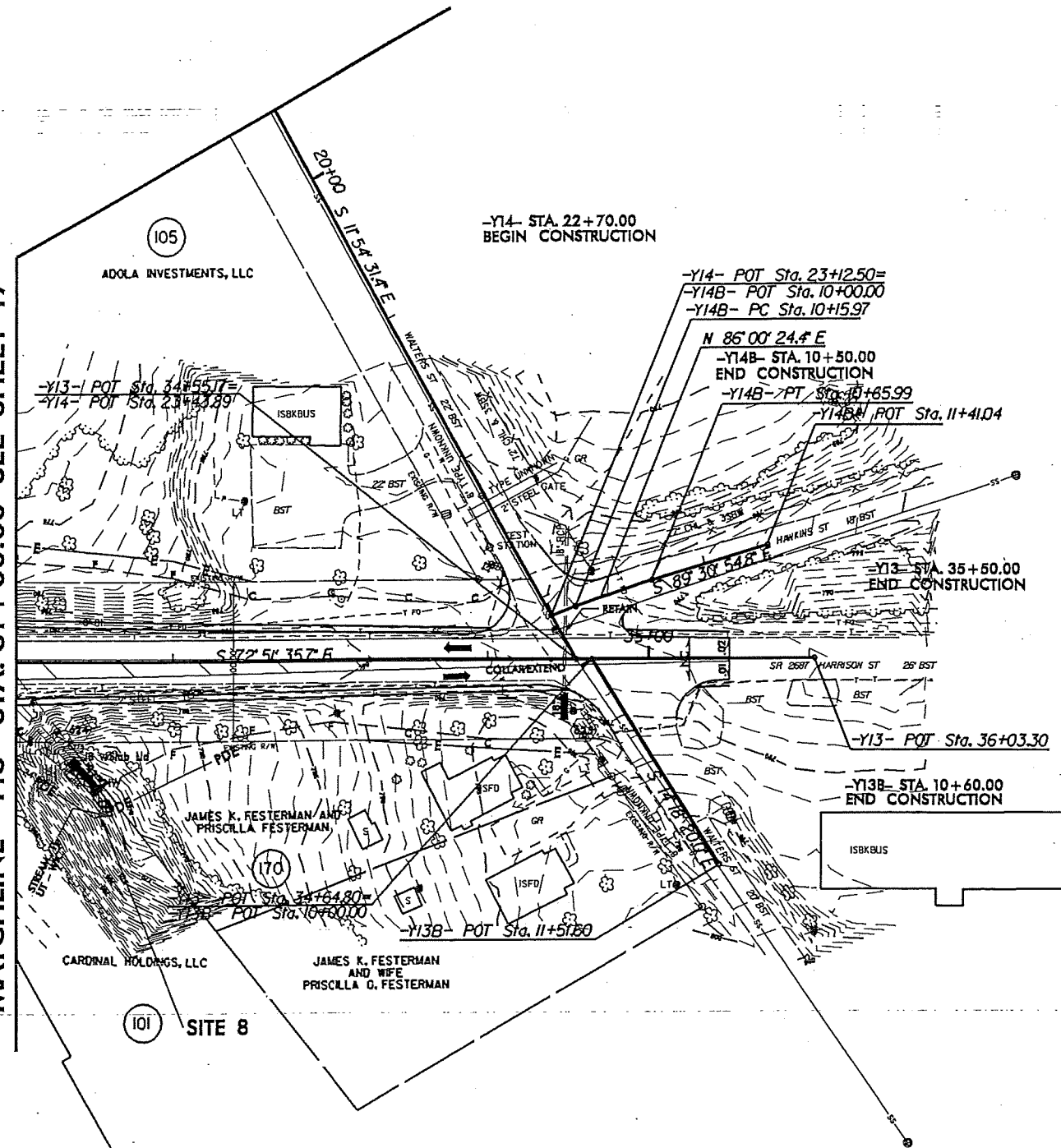
Permit Drawing
Sheet 46 of 58

-Y14B-

PI Sta 10+40.99
 $\Delta = 4' 28'' 40.8''$ (RT)
D = 8' 57' 08.9"
L = 50.02'
T = 25.02'
R = 640.00'
SE = EXIST.

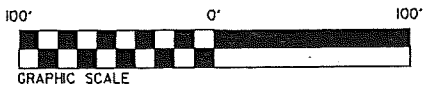


MATCHLINE -Y13- STA. 31+00.00 SEE SHEET 17



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 50 FOR -Y13- PROFILE

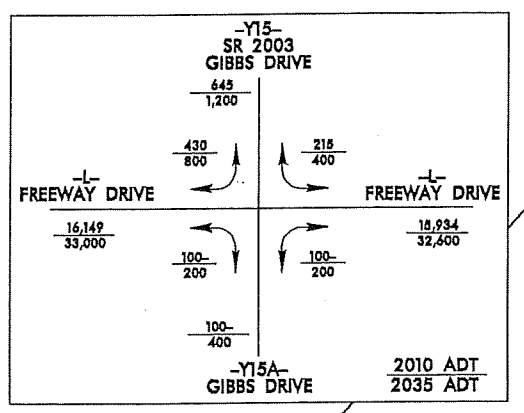
REVISIONS

07-JUL-2009 10:47
C:\hadr\aulias\permt\environmental\drawings\3326_r-dj_psh_a28.dgn
HY24534

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

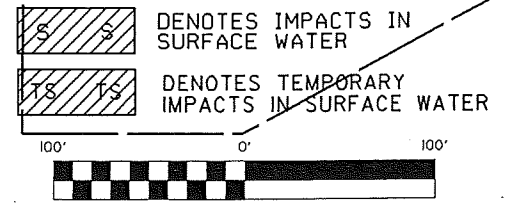
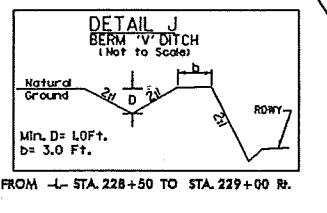
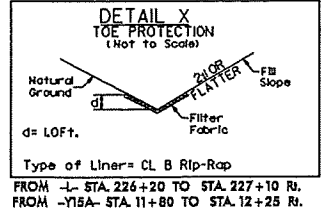
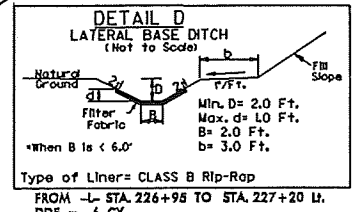
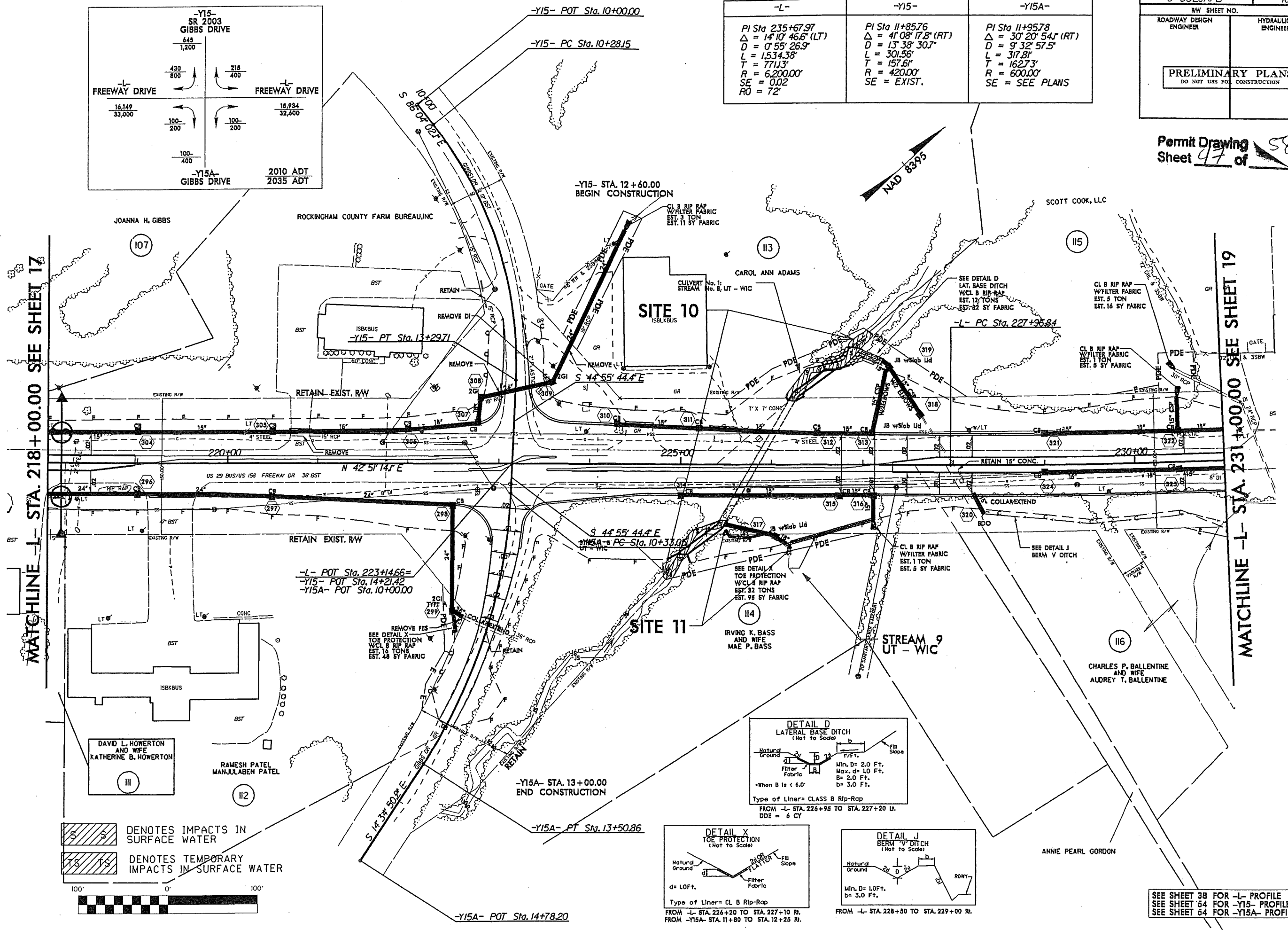
-L-	-Y15-	-Y15A-
PI Sta 235+67.97 Δ = 14° 0' 46.6" (LT) D = 0' 55' 26.9" L = 1,534.38' T = 771.3' R = 6,200.00' SE = 0.02 RO = 72'	PI Sta 11+85.76 Δ = 41° 08' 17.8" (RT) D = 13' 38' 30.7" L = 301.56' T = 157.6' R = 420.00' SE = EXIST.	PI Sta 11+95.78 Δ = 30° 20' 54.1" (RT) D = 9' 32' 57.5" L = 317.81' T = 162.73' R = 600.00' SE = SEE PLANS

Permit Drawing Sheet 47 of 58



MATCHLINE -L- STA. 218+00.00 SEE SHEET 17

MATCHLINE -L- STA. 231+00.00 SEE SHEET 19



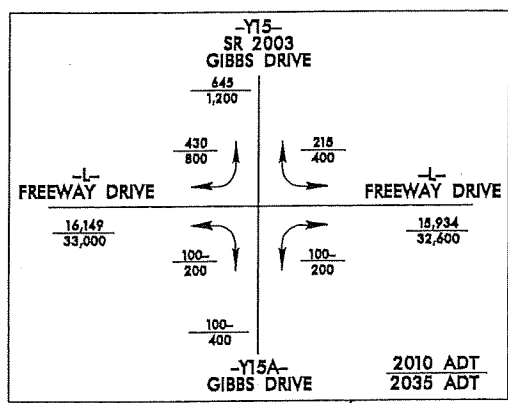
SEE SHEET 38 FOR -L- PROFILE
 SEE SHEET 34 FOR -Y15- PROFILE
 SEE SHEET 34 FOR -Y15A- PROFILE

30-JUL-2009 15:45 [path] drawings\3326_rdy_psh.s18.dgn

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

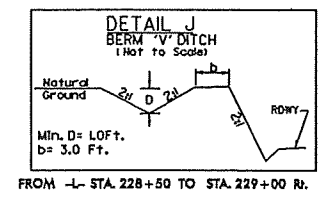
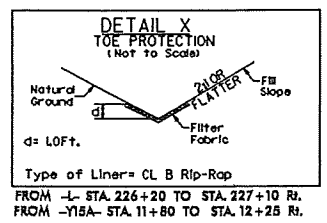
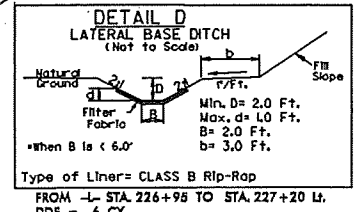
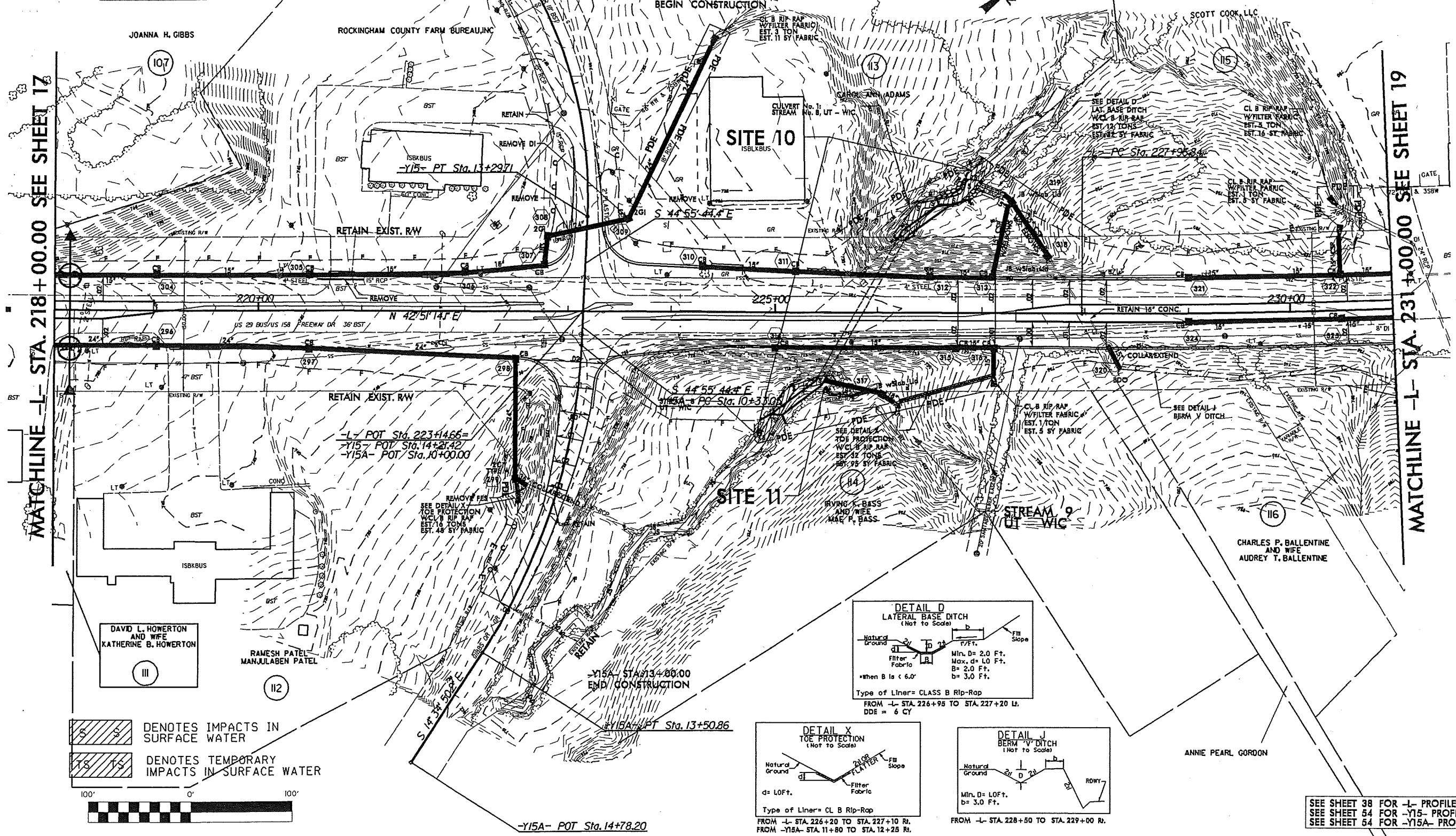
Permit Drawing 58
Sheet 48 of 58

-L-	-Y15-	-Y15A-
PI Sta 235+67.97 Δ = 14° 10' 46.6" (LT) D = 0° 55' 26.9" L = 1,534.38' T = 771.13' R = 6,200.00' SE = 0.02 RO = 72'	PI Sta 11+85.76 Δ = 41° 08' 17.8" (RT) D = 13° 38' 30.7" L = 301.56' T = 157.61' R = 420.00' SE = EXIST.	PI Sta 11+95.78 Δ = 30° 20' 54.1" (RT) D = 9° 32' 57.5" L = 317.81' T = 162.73' R = 600.00' SE = SEE PLANS

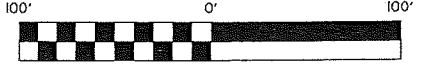


MATCHLINE -L- STA. 218+00.00 SEE SHEET 17

MATCHLINE -L- STA. 231+00.00 SEE SHEET 19



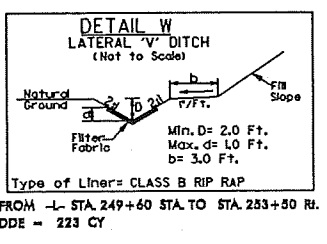
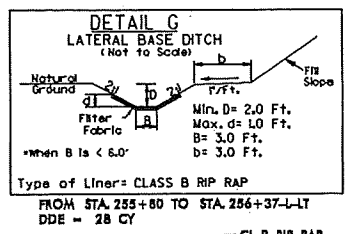
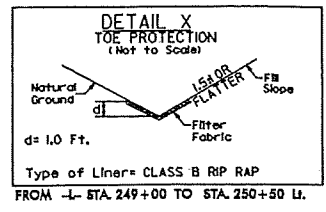
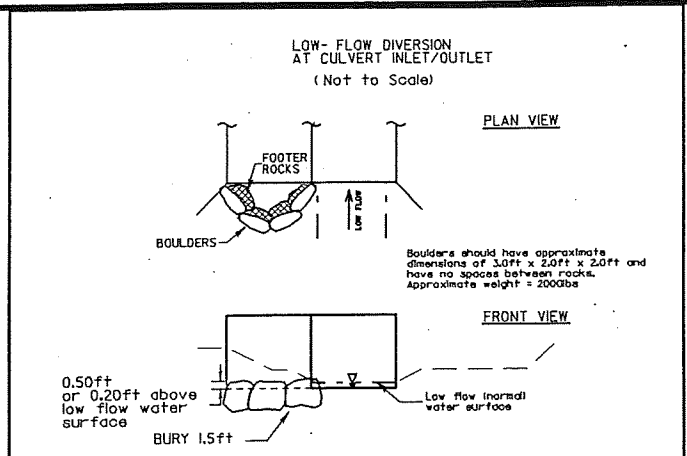
DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



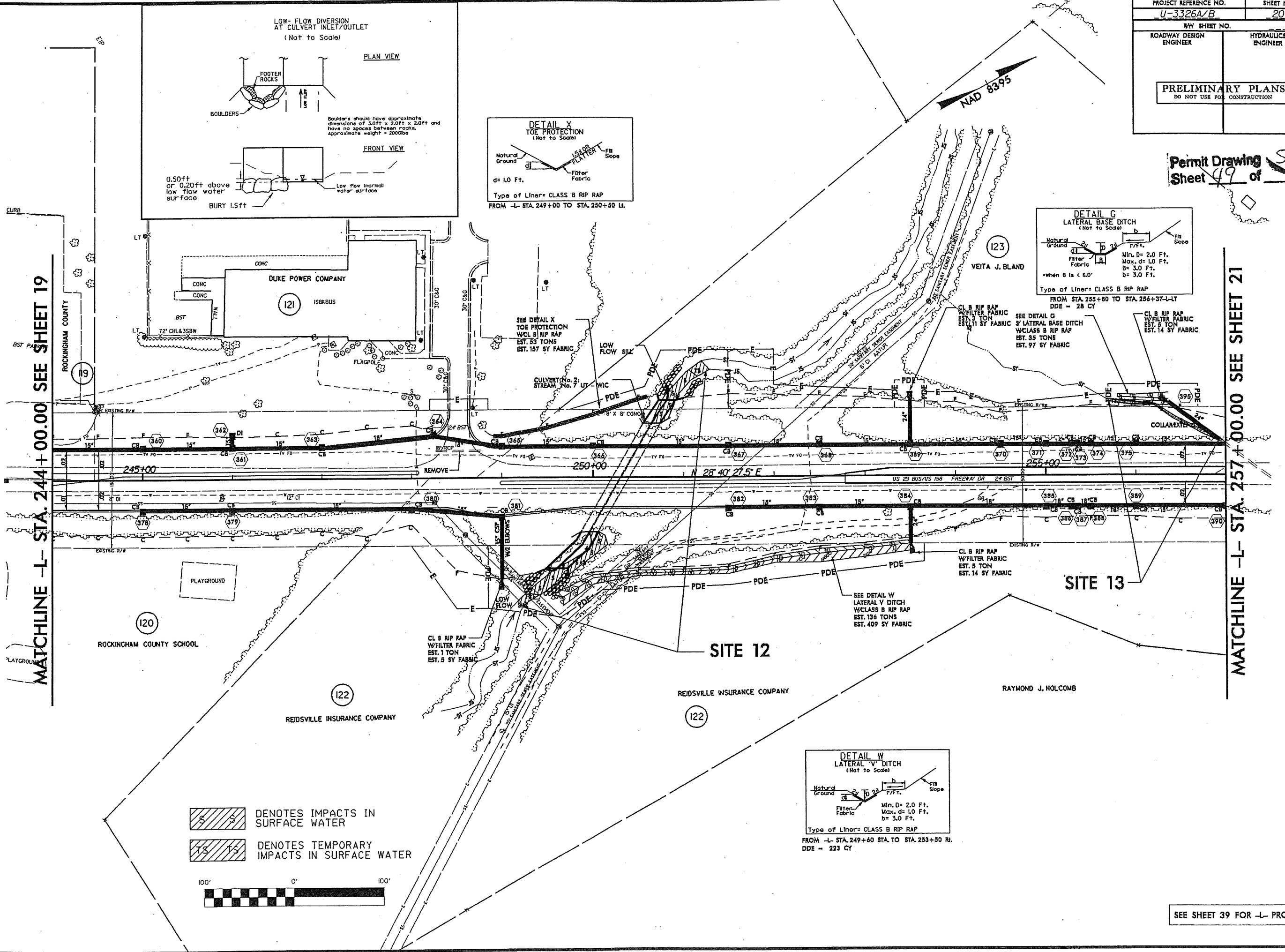
SEE SHEET 38 FOR -L- PROFILE
SEE SHEET 34 FOR -Y15- PROFILE
SEE SHEET 34 FOR -Y15A- PROFILE

REVISIONS

30-JUL-2009 15:45
C:\projects\3326A\Drawings\3326A.dwg
30-JUL-2009 15:45
C:\projects\3326A\Drawings\3326A.dwg



REVISIONS
 06/25/09 R/W REVISION - REVISED THE PDE AT -L- STA. 253+50.00 LT. FROM 118' TO 105' OFFSET DUE TO THE 24' ROP ADJUSTMENT BACK TO THE TOE OF THE SLOPE ON PARCEL 123 (VEITA J. BLAND).
 04-AUG-2009 08:44
 C:\Users\jacob\Documents\Drawings\3326_rwy\3326_rwy.dwg



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 244+00.00 SEE SHEET 19

MATCHLINE -L- STA. 257+00.00 SEE SHEET 21

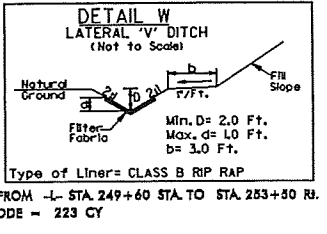
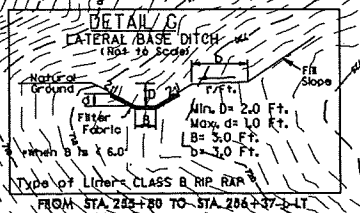
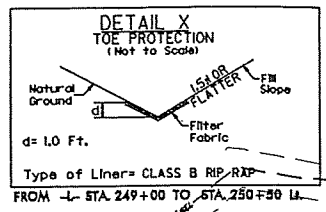
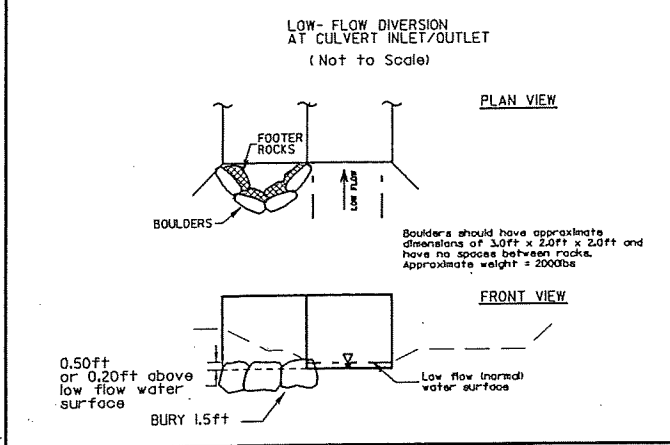
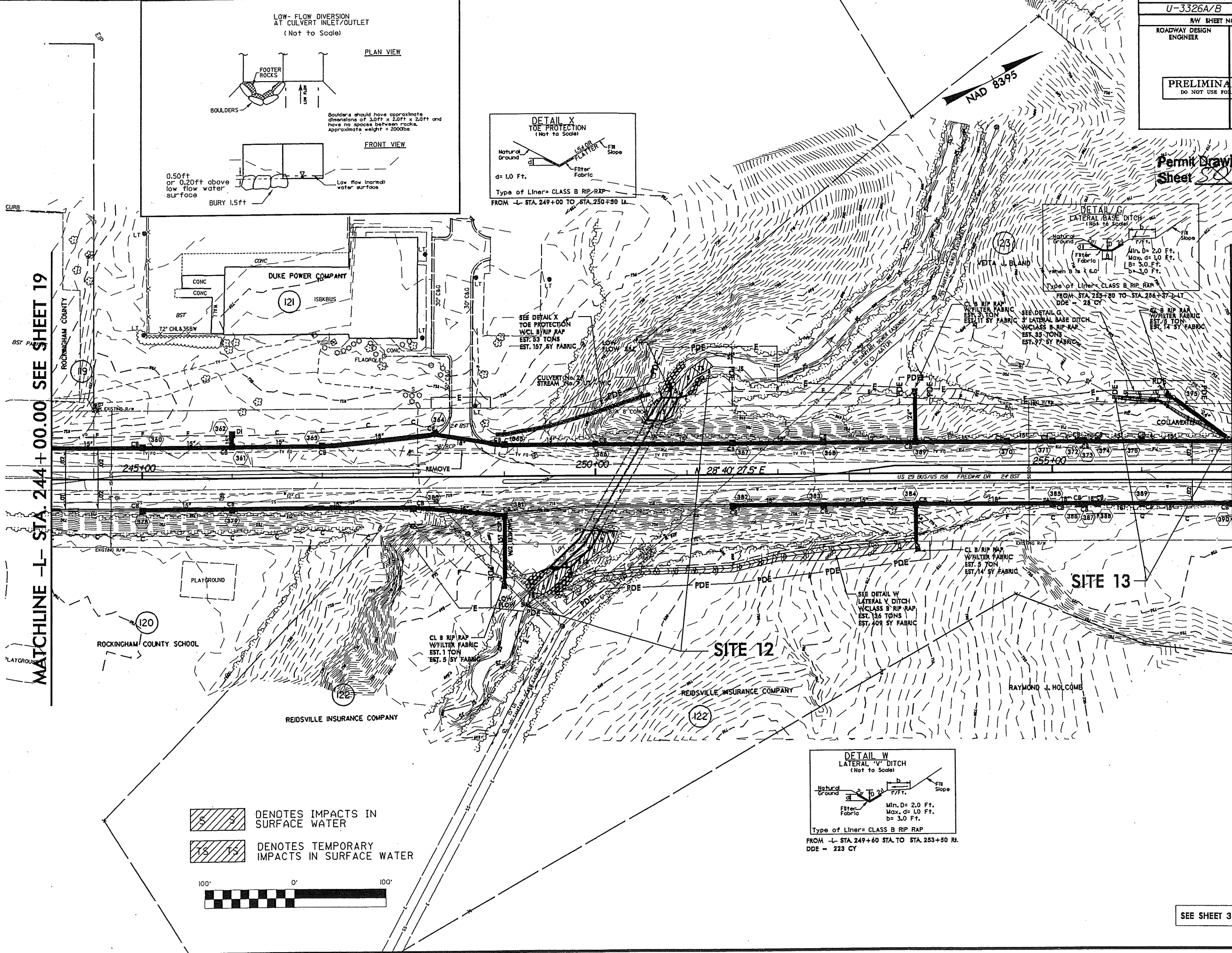
SEE SHEET 39 FOR -L- PROFILE

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

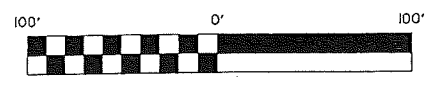
Permit Drawing
Sheet 20 of 28

REVISIONS
 06/25/09 R/W REVISION - REVISED THE PDE AT -L- STA. 253+50.00 LT. FROM 118' TO 105' OFFSET DUE TO THE 24" RCP ADJUSTMENT BACK TO THE TOE OF THE SLOPE ON PARCEL 123 (VEITA J. BLAND).

04-AUG-2009 08:44
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 B/17/99



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 39 FOR -L- PROFILE

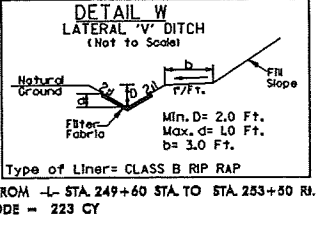
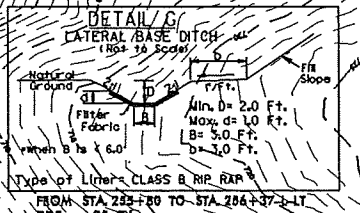
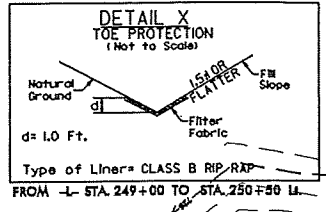
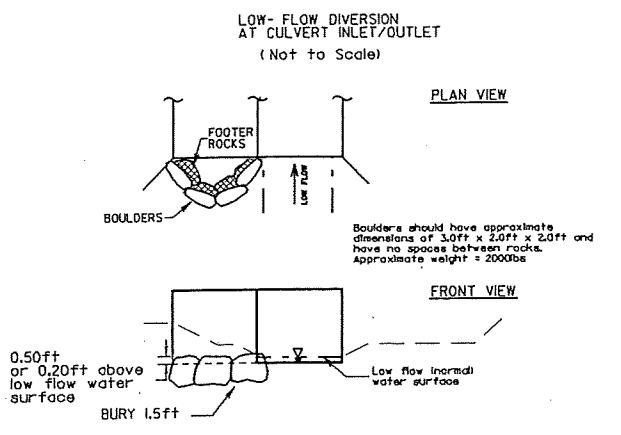
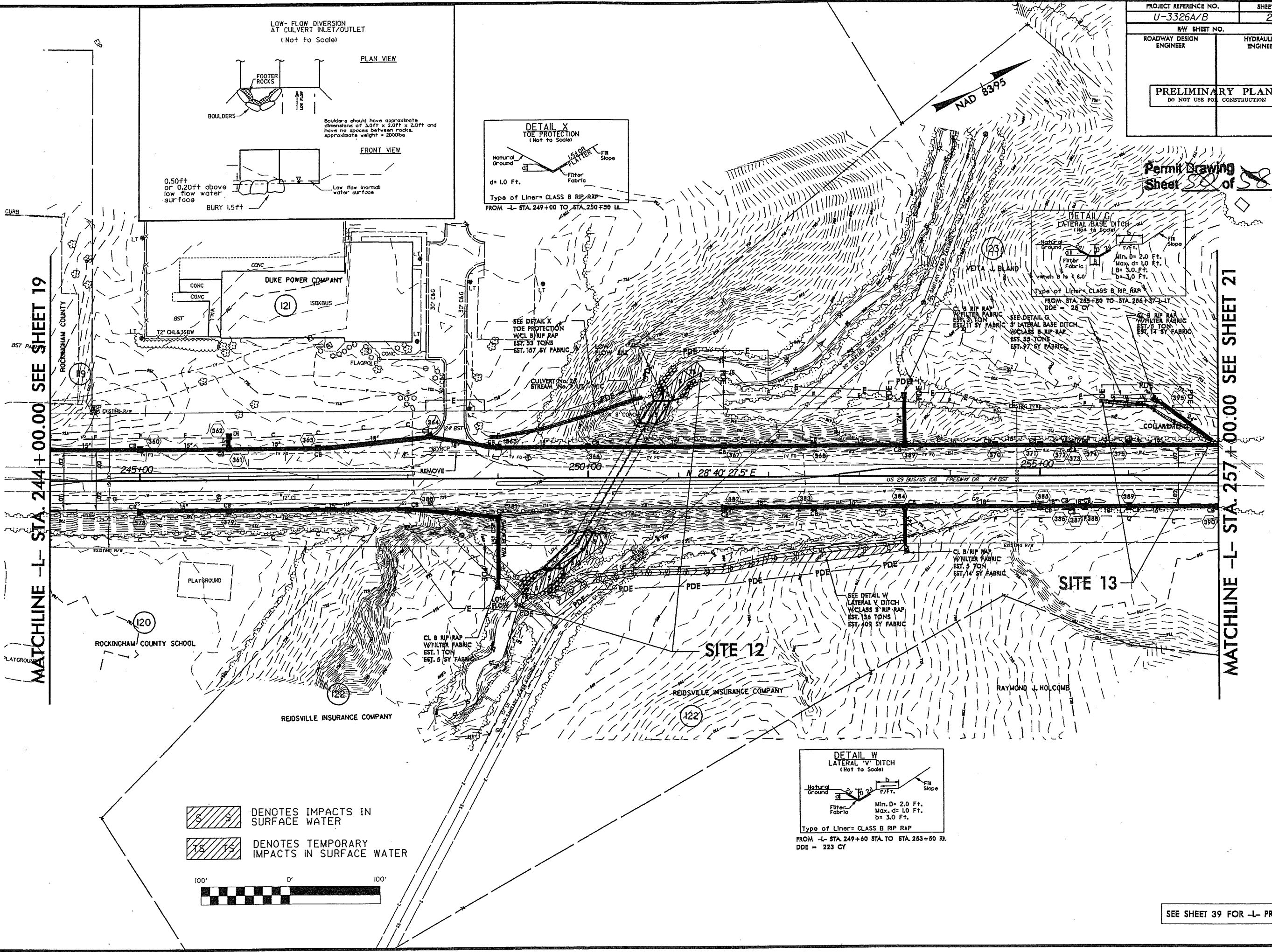
PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 20 of 38

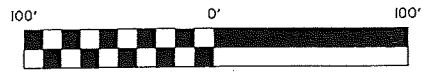
REVISIONS
 06/25/09 RAW REVISION - REVISED THE PDE AT -L- STA. 253+50.00 LT. FROM 118' TO 105' OFFSET DUE TO THE 24" RCP ADJUSTMENT BACK TO THE TOE OF THE SLOPE ON PARCEL 123 (WEITA J. BLAND).
 04-AUC-2009, 08:44
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MATCHLINE -L- STA. 244 + 00.00 SEE SHEET 19

MATCHLINE -L- STA. 257 + 00.00 SEE SHEET 21



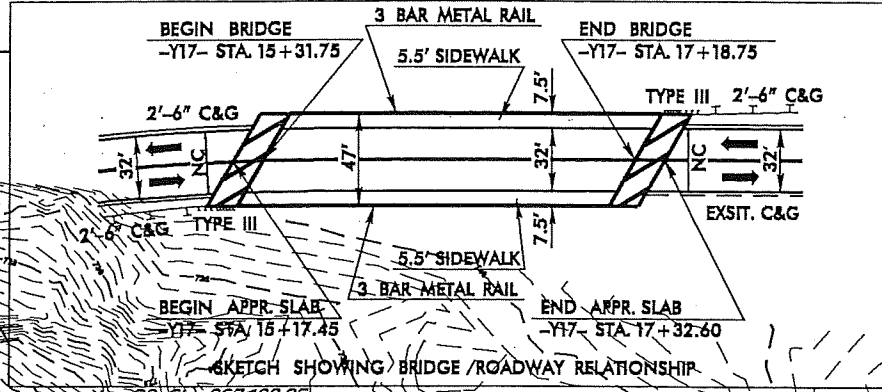
DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 39 FOR -L- PROFILE

PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

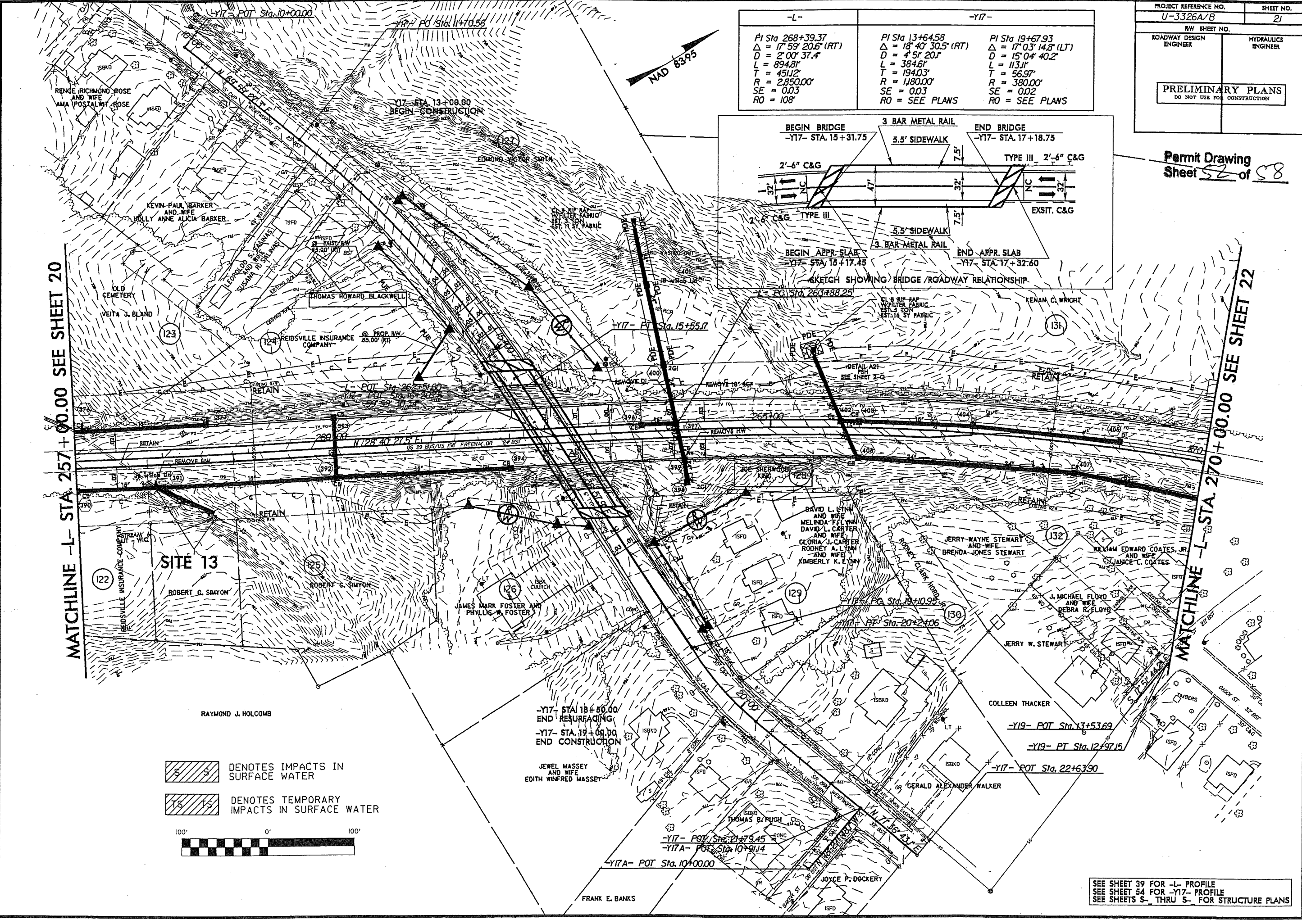
-L-	-Y17-	-Y17-
PI Sta 268+39.37	PI Sta 13+64.58	PI Sta 19+67.93
$\Delta = 17^{\circ}59'20.6"$ (RT)	$\Delta = 18^{\circ}40'30.5"$ (RT)	$\Delta = 17^{\circ}03'14.8"$ (LT)
$D = 2^{\circ}00'37.4"$	$D = 4^{\circ}51'20.7"$	$D = 15^{\circ}04'40.2"$
$L = 894.81'$	$L = 384.61'$	$L = 113.11'$
$T = 451.12'$	$T = 194.03'$	$T = 56.97'$
$R = 2,850.00'$	$R = 1,180.00'$	$R = 380.00'$
$SE = 0.03$	$SE = 0.03$	$SE = 0.02$
$RO = 108'$	$RO = \text{SEE PLANS}$	$RO = \text{SEE PLANS}$



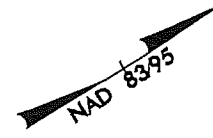
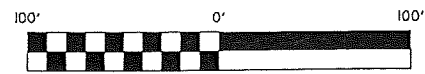
Permit Drawing
Sheet 21 of 28

MATCHLINE -L- STA. 257 + 00.00 SEE SHEET 20

MATCHLINE -L- STA. 270 + 00.00 SEE SHEET 22



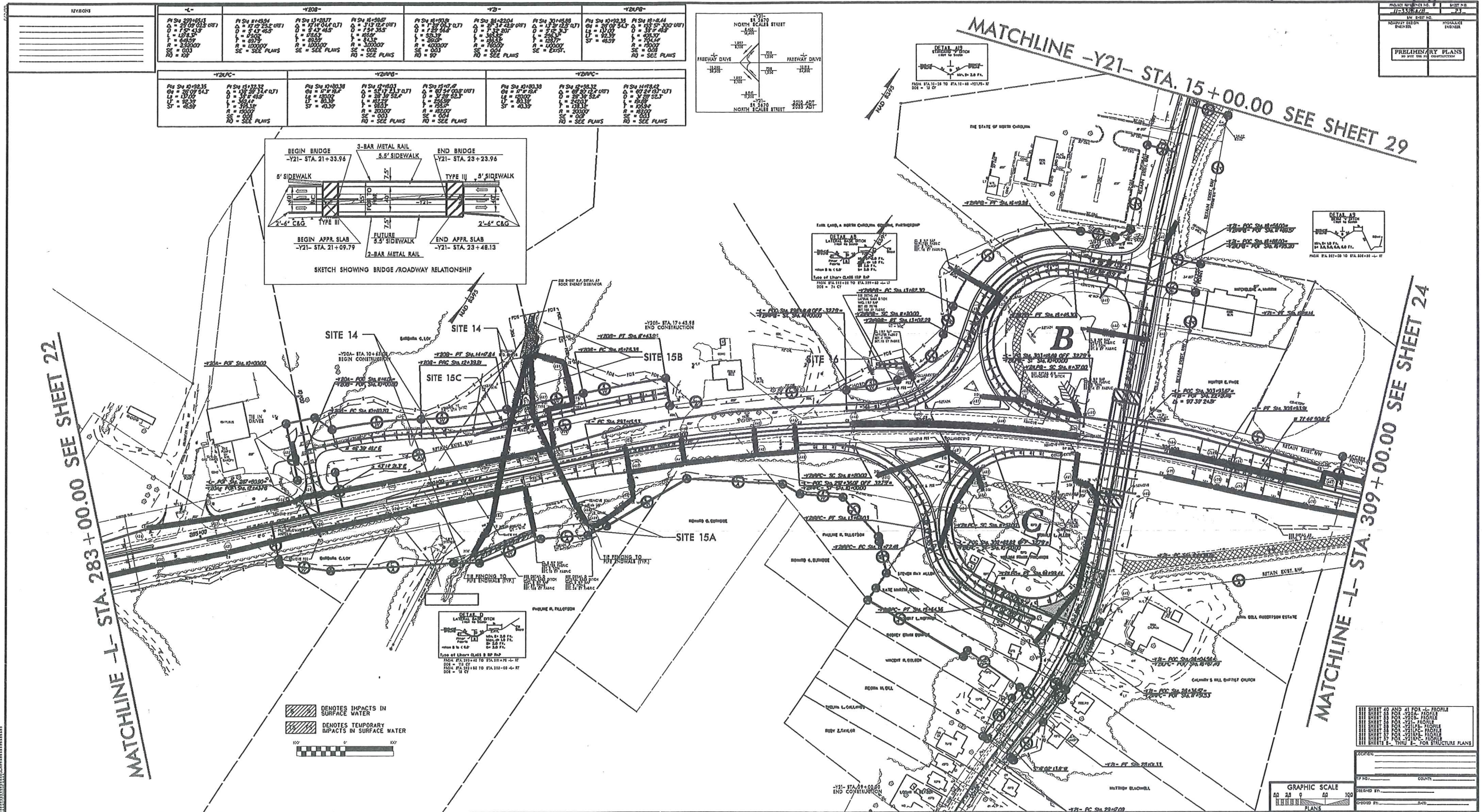
DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



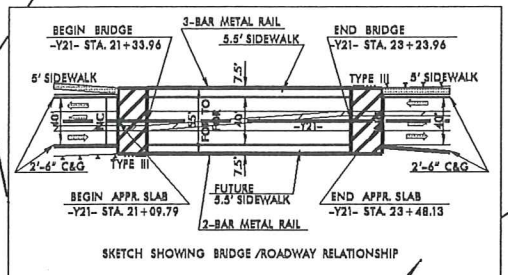
REVISIONS
03/23/09 R/W REVISION (PJS) -- ADDED PERMANENT UTILITY EASEMENT AND REVISED TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 124 (REIDSVILLE INSURANCE COMPANY)

07 JUL 2009 10:59
C:\Users\jps\Documents\Drawings\3326_rdw\psd.s21.dgn
E:\3326\3326.dwg

SEE SHEET 39 FOR -L- PROFILE
SEE SHEET 54 FOR -Y17- PROFILE
SEE SHEETS 5- THRU 8- FOR STRUCTURE PLANS



REVISION	-Y20-	-Y20-	-Y20-	-Y20-	-Y20-	-Y20-	-Y20-	
	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00	PI STA 17+00.00 O = 2.00 L = 100.00 R = 100.00 SE = SEE PLANS NO = 00



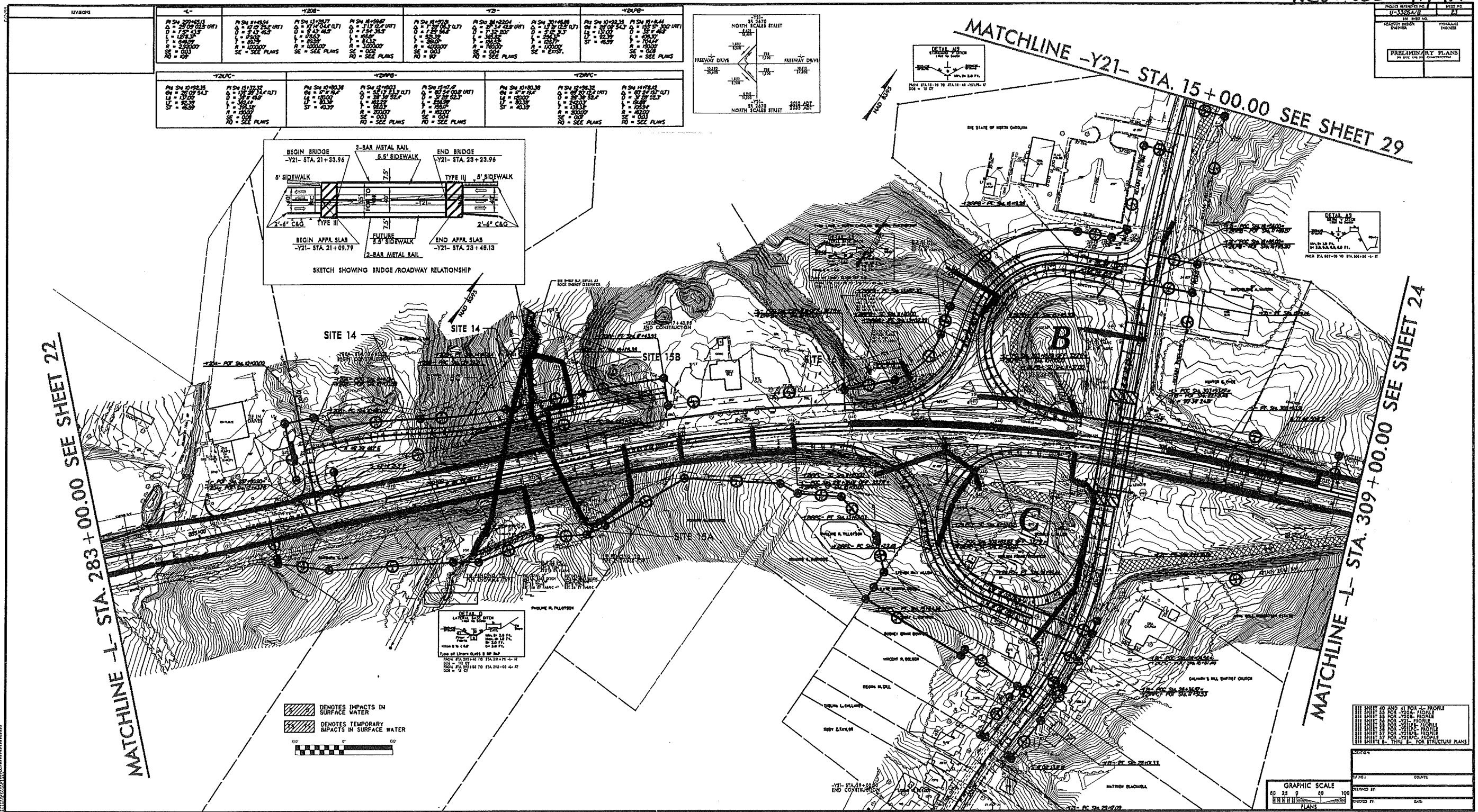
MATCHLINE -L- STA. 283+00.00 SEE SHEET 22

MATCHLINE -L- STA. 309+00.00 SEE SHEET 24

MATCHLINE -Y21- STA. 15+00.00 SEE SHEET 29

PROJECT NO.	77-336728
SHEET NO.	53
TOTAL SHEETS	58
DATE	11/4/10
DESIGNED BY	
CHECKED BY	
IN CHARGE	
PRELIMINARY PLANS	

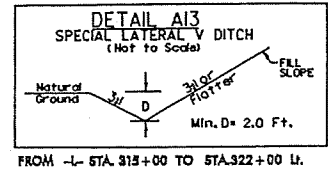
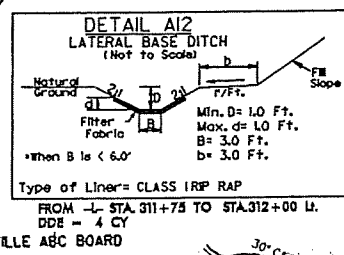
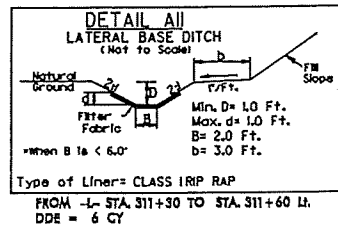
DATE	
BY	
CHECKED BY	
IN CHARGE	
SCALE	AS SHOWN
GRAPHIC SCALE	0 25 50 100 FEET



PROJECT NO.	U-1336/27
DATE	11/4/10
DESIGNER	PERMIT DRAWING
CHECKER	
APPROVER	
SCALE	
DATE	
PROJECT NO.	
DATE	
DESIGNER	
CHECKER	
APPROVER	
SCALE	
DATE	

GRAPHIC SCALE	0 25 50 100
FOOT	
METER	
DATE	
DESIGNER	
CHECKER	
APPROVER	
SCALE	
DATE	

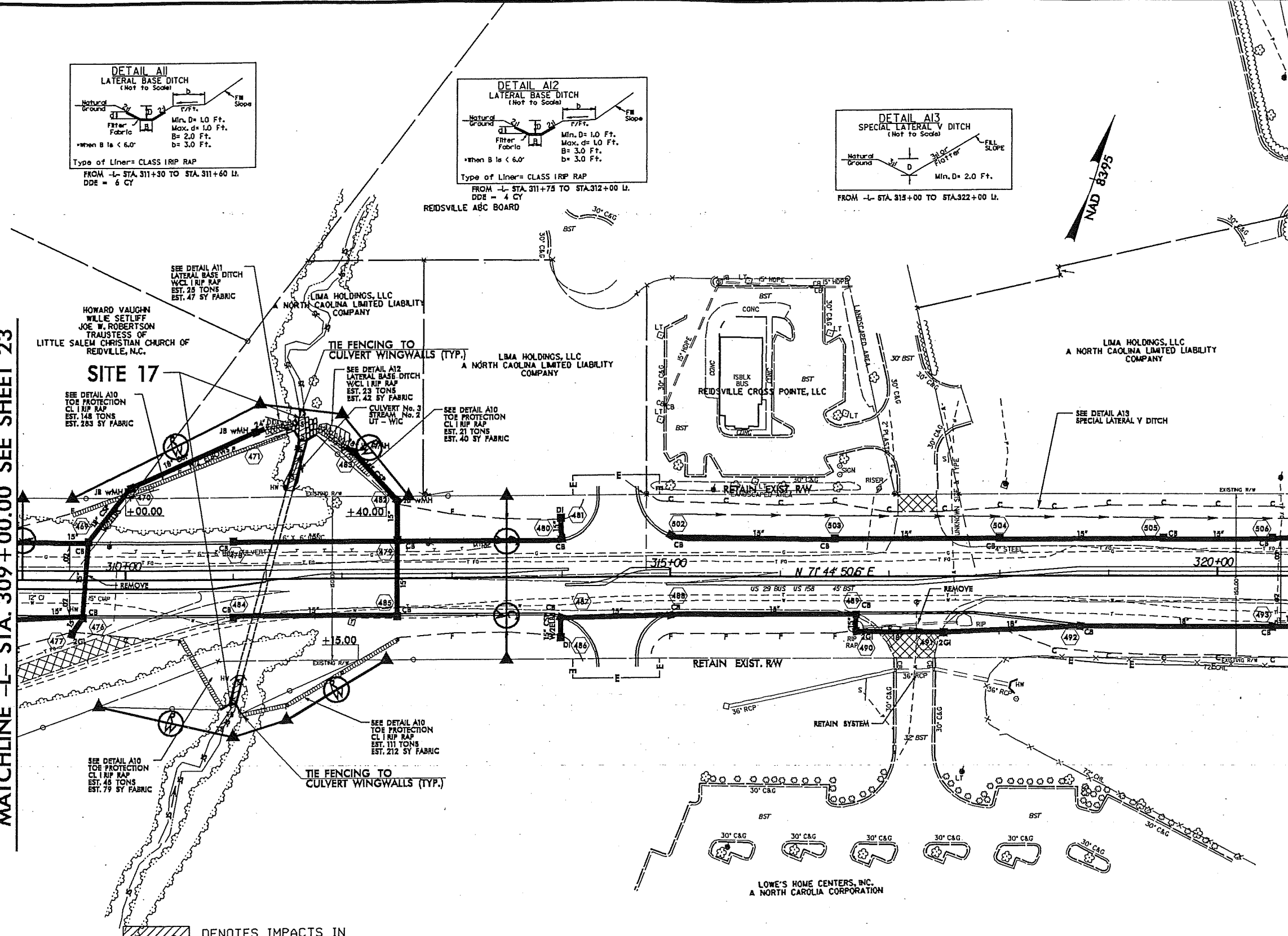
PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 24
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 55 of 58

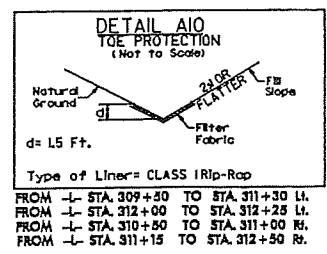
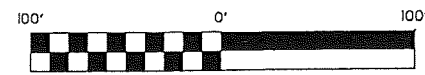
MATCHLINE -L- STA. 309 + 00.00 SEE SHEET 23

MATCHLINE -L- STA. 321 + 00.00 SEE SHEET 25



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 41 FOR -L- PROFILE

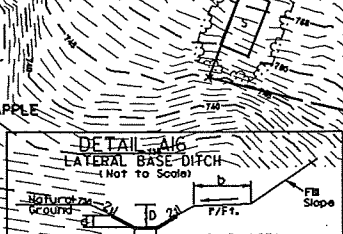
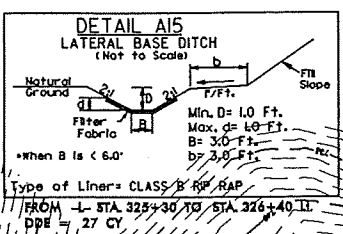
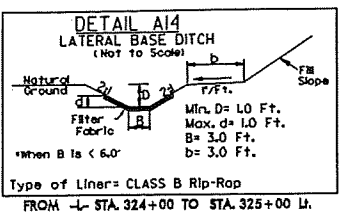
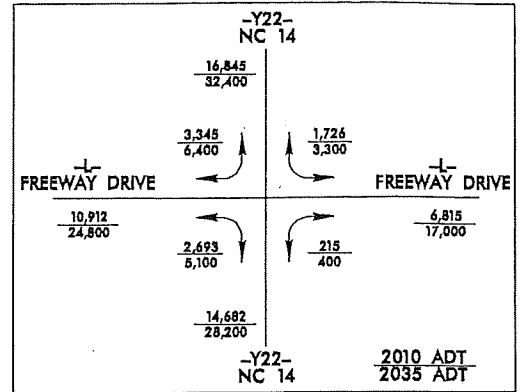
8/17/99
07-JUL-2009 14:08
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PROJECT REFERENCE NO. U-3326A/B	SHEET NO. 25
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-Y22-

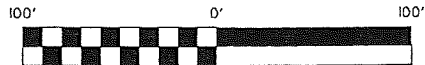
PI Sta 21+09.44
 $\Delta = 2' 54' 43.7''$ (LT)
 $D = 5' 43' 46.5''$
 $L = 50.83'$
 $T = 25.42'$
 $R = 1,000.00'$
 $SE = EXIST.$

Permit Drawing
 Sheet 58 of 58



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



★ REVISED SIGNAL

SEE SHEET 42 FOR -L- PROFILE
 SEE SHEET 59 FOR -Y22- PROFILE

REVISIONS
 03/23/09 RAW REVISION (PJS) - ADDED PERMANENT UTILITY EASEMENT AND REVISED TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 163 (MICHAEL W. APPLE)
 RT OF -L- STA. 328+50.
 ADDED PERMANENT UTILITY EASEMENT AND ELIMINATED TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 165 (ANTHONY TYRONE BRIDGES)
 04-AUG-2009 08:31
 C:\hwy\projects\p13326\drawings\3326_rdy_psh_a25.dgn
 8/17/99

MATCHLINE -L- STA 321+00.00 SEE SHEET 24

