

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR


ANTHONY J. TATA
SECRETARY

March 8, 2013

MEMORANDUM TO: Ms. Karen E. Fussell, PE
Division 3 Engineer

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

SUBJECT: Brunswick County, Extension of SR 1163 (Old Georgetown
Road) from SR 1184 (Ocean Isle Beach Road);
WBS Element 35501.1.1; **TIP R-3432**



Attached are the U.S. Army Corps of Engineers Section 404 Individual Permit, the N.C. Division of Water Quality Section 401 Water Quality Certification, and the N.C. Division of Coastal Management CAMA Consistency Statement. All environmental permits have been received for construction of this project.

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

cc:

Mr. Randy Garris, Contract Standards and Development Unit
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design Unit
Mr. Dewayne Sykes, P.E. Utilities Unit
Mr. Art McMillan, P.E., Hydraulics Unit
Mr. Greg Perfetti, P.E., Structure Design Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Stoney Mathis, Division Environmental Officer
Mr. Rob Hanson, P.E., PDEA
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, Office of Inspector General
Mr. Clarence Coleman, P.E., FHWA

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

PROJECT COMMITMENTS

T.I.P. Project R-3432
Proposed Extension of SR 1163 (Old Georgetown Road) from
SR 1184 (Ocean Isle Beach Road) to NC 179
Brunswick County
WBS # 35501.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Roadway Design/Division 3 Construction

NCDOT will use 3:1 slopes at all jurisdictional crossings throughout this project.

COMMITMENTS FROM PERMITTING

Division 3 Construction

The permittee will ensure that the construction design plans for this project do not deviate from the permit. Written verification shall be provided that the final construction drawings comply with the permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the COE, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands.

Division 3 Construction/Roadside Environmental Unit

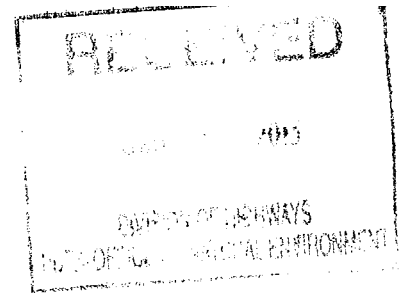
Channel relocations shall be completed and stabilized, and approved on site by DWQ staff, prior to diverting water into the new channel. Stream banks shall be matted with coir-fiber matting. Vegetation used for bank stabilization shall be limited to native riparian vegetation, and should include establishment of a vegetated buffer on both sides of the relocated channel to the maximum extent practical. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills.



REPLY TO
ATTENTION OF:

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

February 21, 2013



Regulatory Division

Action ID No. SAW-2007-00983; TIP Project No. R-3432 Brunswick County, North Carolina.

Dr. Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

In accordance with your complete written request of October 3, 2012 and the ensuing administrative record, enclosed is one copy of a Department of the Army permit to directly discharge fill material into waters and wetlands near the headwaters of Jinny's Branch, a tributary to the Shalotte River, to complete a new location extension of Old Georgetown Road (SR1163), Brunswick County, North Carolina. The proposed improvements total 2.859 miles in length.

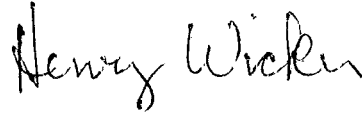
Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your 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, 2018.
- 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. Brad Shaver in the Wilmington Regulatory Field Office, telephone number (910) 251-4611.

Sincerely,



for

Steven A. Baker
Colonel, U. S. Army
District Commander

Enclosures

Copies Furnished (with enclosures):

Chief, Source Data Unit
NOAA/National Ocean Service
1315 East-West Highway, Room 3716
Silver Spring, Maryland 20910-3282

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

Ms. Jennifer Derby, Chief
Wetlands Protection Section – Region IV
Water Management Division
U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, Georgia 30303-8931

Mr. Jeffrey Garnett
Wetlands and Marine Regulatory Section
Water Protection Division – Region IV
U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, Georgia 30303-8931

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

Mr. Pace Wilber
National Marine Fisheries Service
2191 Fort Johnson Road
Charleston, South Carolina 29412-9110

DEPARTMENT OF THE ARMY PERMIT

Permittee: NCDOT

Permit No.: SAW-2007-00983

Issuing Office: CESA-W-RG-L

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

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

Project Description: The purpose of the project is to alleviate traffic congestion along NC 179 and to establish a more efficient travel route between the towns of Shallotte and Calabash.

Project Location: The project is generally located in south central Brunswick County, north of Ocean Isle, east of Calabash and west of Shallotte. The location of this project specifically begins at the intersection of existing SR 1163 (Old Georgetown Road) and SR 1184 (Ocean Isle Beach Road) and then orients east and finally terminates into NC 179 (Bricklanding Road) near the headwaters of Jinnys Branch, which empties into the Shallotte River. The project is located in the Lumber River Basin and lies within Hydrologic Unit Code 03040207(new HUC # 03040208).

General Conditions:

- 1. The time limit for completing the work authorized ends on December 31, 2018. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.**
- 2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.**
- 3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.**
- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.**
- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.**

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

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

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. **Limits of this authorization.**

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

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

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

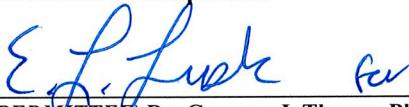
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.


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

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

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

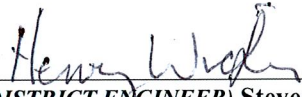


(PERMITTEE) Dr. Gregory J. Thorpe, Ph.D., Manager
North Carolina Department of Transportation




(DATE)

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



(DISTRICT ENGINEER) Steven A. Baker
Colonel, U.S. Army
District Commander



(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)

*U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

SAW-2007-00983, SPECIAL CONDITIONS

In accordance with 33 U.S.C. 1341(d), all conditions of the North Carolina Division of Water Quality (NCDWQ) 401 Water Quality Certification #3948 and the North Carolina Division of Coastal Management Consistency Determination (CD13-001) is incorporated as part of the Department of the Army permit.

1. Plans

A. The permittee will ensure that the construction design plans for this project do not deviate from the permit plans (Permit Drawings sheets 1-29 of 29, sheet 2-E, and RF-2-3, initially received October 10, 2012 with update received January 3, 2013) attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the COE, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands.

B. 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.

2. Pre Construction Meeting

A. The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting.

B. The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Mr. Brad Shaver, Regulatory Field Office prior to any active construction in waters or wetlands.

3. Culverts

A. Unless otherwise requested in the applicant's application and depicted on the approved work plans, culverts greater than 48 inches in diameter will be buried at least one foot

below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert. The excavation required, typically noted as temporary stream impact, should be restored to its original elevation at the completion of the culvert installation.

B. Any instability of the stream channel or banks (downcutting, headcutting, or bank erosion) caused by the installation of authorized work shall be corrected before project completion. Any remedial actions to correct stream channel or bank instability shall be coordinated through the appropriate USACE field office project manager prior to execution.

C. Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

D. 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. Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried.

E. Rip rap is prohibited from being placed in the low flow channel of any culvert along this project.

4. Sediment Erosion Control

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

B. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area.

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

D. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

E. The permittee shall install barrier fencing around all wetlands that are not to be disturbed to make them readily visible and prevent construction equipment from inadvertently entering or disturbing these areas.

F. All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

5. Temporary Fills

A. 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.

6. Borrow and Waste

A. 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 COE 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 COE before approving

any borrow or waste sites that are within 400 feet of any streams or wetlands. The evaluation of impacts to jurisdictional resources (waters and wetlands) associated with borrow/waste sites should include any haul roads or other access points.

B. 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. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

7. Mitigation

A. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

** Note, breakdown of impacts to required mitigation:

- 0.73 acres of riparian impacts will be mitigated through EEP at 2:1, resulting in a 1.46 acre debit.
- 336 linear feet of stream impact minus 97 linear feet of stream relocation which will not require compensatory mitigation leaves 239 linear feet subject to mitigation. The 39 linear feet at site #5 will be mitigated at 1.5:1 and the 200 linear feet at site #2 will be mitigated at 2:1 from EEP, resulting in a 458.5 linear feet debit.

B. Prior to the introduction of stream flow, the relocated channel will be allowed to stabilize for one growing season or until such time as the permittee can demonstrate to the COE satisfaction that the channel has adequately stabilized.

8. Enforcement

A. 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.

B. Violations of these conditions or violations of Section 404 of the Clean Water Act must be reported in writing to the Wilmington District U.S. Army COE within 24 hours of the permittee's discovery of the violation.

C. If the permittee discovers any previously unknown historic or archaeological sites while accomplishing the authorized work, he shall immediately stop work and notify the Wilmington District Commander who will initiate the required State/Federal coordination.

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation
Project Name: Old Georgetown Road Extension, R-3432

Action ID: SAW-2007-00983
County: Brunswick

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor should verify that the mitigation requirements shown below are available and ensure that they have received payment before signing this form. By signing below, the Sponsor is accepting responsibility for the identified mitigation. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/ILF Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation*

8-digit HUC and Basin: 03040207, Lumber River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
239			0.73			

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:

8-digit HUC and Basin: 03040207, Lumber River Basin

Stream (credits)			Wetland (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
458.5			1.46			

Mitigation Site Debited: NC EEP

(For banks, list the name of the bank to be debited, and the specific site if an umbrella bank. For NCEEP, list "NCEEP" and "Advance Credits", "Unassigned", or the name of the site name if specified in the acceptance letter from NCEEP.)

Section to be completed by the Mitigation Bank or ILF Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Bank/ILF Sponsor shown below, and certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for ILF programs), as approved by the USACE, are currently available at the bank/ILF site identified below. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Bank/ILF Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative

Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Bank/ILF Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to provide a signed copy of this form to the USACE Project Manager at the address below.
- If changes are proposed to the type, amount or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

** Note, breakdown of impacts to required mitigation:

- 0.73 acres of riparian impacts will be mitigated through EEP at 2:1, resulting in a 1.46 acre debit.
- 336 linear feet of stream impact minus 97 linear feet of stream relocation which will not require compensatory mitigation leaves 239 linear feet subject to mitigation. The 39 linear feet at site #5 will be mitigated at 1.5:1 and the 200 linear feet at site #2 will be mitigated at 2:1 from EEP, resulting in a 458.5 linear feet debit.

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Brad Shaver
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

Email:



USACE Project Manager Signature

January 29, 2013

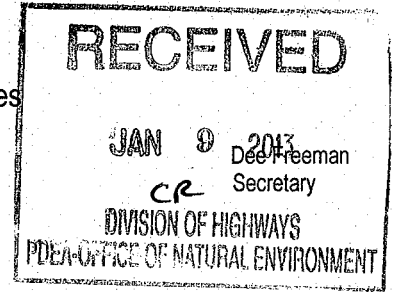
Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Charles Wakild, P.E.
Director



Beverly Eaves Perdue
Governor

January 04, 2013

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: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for proposed construction of an extension of SR 1163(Old Georgetown
Rd) from SR 1184 (Ocean Isle Beach Rd) to NC 179 in Brunswick County, State Project 6.231023, WBS
35501.1.1, TIP R-3432.

NCDWQ Project No. 20120935
NCDWQ Certification No. 3948

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3948 issued to The North Carolina Department of Transportation
(NCDOT) dated January 04, 2013.

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

Sincerely,

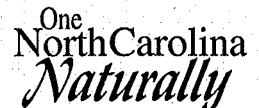
Charles Wakild
Director

Attachments

- cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office
- Karen Fussell, PE, Division 3 Engineer
- Stoney Mathis, Division 3 Environmental Officer (electronic copy only)
- Chris Militscher, Environmental Protection Agency (electronic copy only)
- Gary Jordan, US Fish and Wildlife Service (electronic copy only)
- Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
- Jason Elliott, NCDOT, Roadside Environmental Unit
- Steve Sollod, Division of Coastal Management
- Michael Ellison, Ecosystem Enhancement Program
- Sonia Carrillo, NCDWQ Central Office
- File Copy

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

An Equal Opportunity \ Affirmative Action Employer.



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 0.73 acres of jurisdictional wetlands, 0.03 acres of waters and 389 linear feet of jurisdictional streams in Brunswick County. The project shall be constructed pursuant to the application dated received October 8, 2012 and revisions dated January 03, 2013. The authorized impacts are as described below:

Stream Impacts in the Lumber River Basin

Site	Station	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)	Bank Stabilization (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
2	98+85 to 99+39-L-	0	0	200	10	0	210	200
5A/B	29+37 to 29+83-Y10-	97*	10	39	5	28	179	0
Total		97*	10	239	15	28	389	200

Total Stream Impact for Project: 389 linear feet

*denotes linear feet of stream that will be relocated

Wetland Impacts in the Lumber River Basin (riparian)

Site	Station	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation
2	98+85 to 99+39-L-	0.03	0	<0.01	<0.01	0	0.03	0
3	100+97 to 105+53-L-	0.40	0	0.04	0.07	0	0.51	0
4	158+32 to 160+27-L-	0.06	0	0.06	0.07	0	0.19	0
Total		0.49	0	0.10	0.14	0	0.73	0

Total Wetland Impact for Project: 0.73 acres.

Open Water (Tributary) Impacts in the Lumber River Basin

Site	Station	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	46+95 to 49+28 -L-	0.03	<0.01	0.03
Total		0.03	<0.01	0.03

Total Open Water Impact for Project: 0.03 acres.

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

This approval is only valid for the purpose and design that you submitted in your application dated received October 8, 2012 and revisions dated January 03, 2013. 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. The NCDOT Division Environmental Officer or Environmental Assistant 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.
2. 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.
3. Pipes shall be installed in a manner that mimics the natural stream cross section as closely as possible, utilizing the construction of floodplain benches and/or use of sills where appropriate. Widening of the stream channel shall 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.
4. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.
5. 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.
6. 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, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills.
7. Pipes and culverts used exclusively to maintain equilibrium in wetlands and/or served as floodplain pipes, where aquatic life passage is not a concern shall not be buried. These pipes shall be installed at natural ground elevation.
8. Compensatory mitigation for 200 linear feet of impact to streams is 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 June 7, 2012 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.
9. The project shall be constructed in accordance with the Stormwater Management Plan submitted in the application and dated May 3, 2012.

General Condition

10. Unless otherwise approved in this certification, 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 down stream 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.

11. 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.
12. 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.
13. 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.
14. 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.
15. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.
16. 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.
17. 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.
18. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
19. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
20. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
21. 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.
22. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification.
23. 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.
24. 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.
25. 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.

26. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
27. 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.
28. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction.
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. 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.
31. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

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:

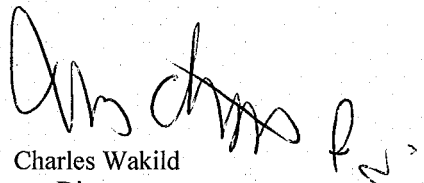
Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

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

Mr. William Cary, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This the 4th day of January 2013

DIVISION OF WATER QUALITY



Charles Wakild
Director

WQC No. 3948



Phil

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

Pat McCrory
Governor

Braxton C. Davis
Director

John E. Skvarla, III
Secretary

January 8, 2013

RECEIVED
Division of Highways

JAN 10 2013

Preconstruction
Project Development and
Environmental Analysis Branch

Gregory J. Thorpe, Ph.D.
Environmental Manager Director
Project Development and Environmental Analysis Branch
NC Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1598

SUBJECT: Conditional Consistency Concurrence - **CD13-001**
Proposed Old Georgetown Road Extension (SR 1163), from SR 1184
(Ocean Isle Beach Road) to NC 179 in Brunswick County, R-3432
(DCM#20120105)

Dear Dr. Thorpe:

The Division of Coastal Management (DCM) received NC Department of Transportation's (NCDOT) Consistency Determination certifying that the subject project is consistent with the NC Coastal Management Program on October 8, 2012. Additional revisions were received on January 3, 2013. NCDOT's Consistency Certification documentation was distributed to State agencies with a regulatory interest for review and to provide DCM with comments on the potential impacts of the project on each agency's resources.

The proposed project, consists of a two-lane facility on new location, approximately 2.9 miles in length, from the intersection of existing SR 1163 (Old Georgetown Road) and SR 1184 (Ocean Isle Beach Road) to NC 179 (Bricklanding Road) in Brunswick County. No Coastal Area Management Act (CAMA) Areas of Environmental Concern (AECs) will be impacted by the construction of the proposed project.

Based on the review of NCDOT's Consistency Certification and the supplementary supporting documentation, comments received from the interested State agencies, and the enforceable policies of the NC Coastal Management Program, DCM concurs, as conditioned below, that the proposed project is consistent, to the maximum extent practicable, with North Carolina's certified coastal management program provided that the following conditions are implemented.

- NCDOT shall obtain and comply with a NC Division of Water Quality (DWQ) Stormwater Permit or receive a Stormwater Permit Exclusion Letter indicating that the project is excluded from State Stormwater permitting requirements. A copy of this authorization or exclusion letter shall be forwarded to DCM.
- NCDOT shall comply with the DWQ, Section 401, Water Quality Certification issued on January 4, 2013, DWQ Project Number 20120935.

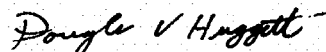
- The NC Ecosystem Enhancement Program (EEP) has agreed to provide necessary mitigation as indicated in the EEP Mitigation Acceptance Letter dated June 7, 2012. Any future unanticipated, substantial, increases in impacts may require NCDOT to revise the Consistency Certification for this project.
- This project shall conform to all requirements of the NC Sedimentation Pollution Control Act and NCDOT's Memorandum of Agreement with the Division of Energy, Mineral and Land Resources.
- Unless specifically altered herein, the environmental commitments made within the Federal Consistency Certification, dated October 8, 2012 and revised on January 3, 2013, and also within the State Environmental Assessment, dated March 25, 2009 and the State Finding of No Significant Impact, dated January 8, 2010, shall be met unless otherwise negotiated with state regulatory agencies. DCM shall be notified of any deviation from the stated commitments and a revised Consistency Determination may be necessary.

These conditions allow DCM to concur with the proposed action. It should be noted, that in accordance with 15 CFR 930.4, if the conditions of concurrence are not met, then this conditional concurrence shall be considered an objection to the action. Should there be disagreement of any stated conditions of concurrence; a response to this correspondence is requested, as soon as possible, to resolve any disagreement with the conditions.

Should the project be modified, a revised Consistency Certification could be necessary. This might take the form of either a supplemental Consistency Determination pursuant to 15 CFR 930.46, or a new Consistency Determination pursuant to 15 CFR 930.36.

If you have any questions on this Conditional Consistency Concurrence, please contact Steve Sollod at (919) 707-9152 or via e-mail at steve.sollod@ncdenr.gov. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,



Doug Huggett
Manager, Major Permits and Consistency Unit

cc: Beth Harmon, EEP
Mason Herndon, DWQ
Chris Rivenbark, NCDOT
Stephen Rynas, DCM
Brad Shaver, USACE
Tyler Stanton, NCDOT
Debbie Wilson, DCM

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3432	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35501.1.1		P.E.	
35501.2.1		RW,UTL.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



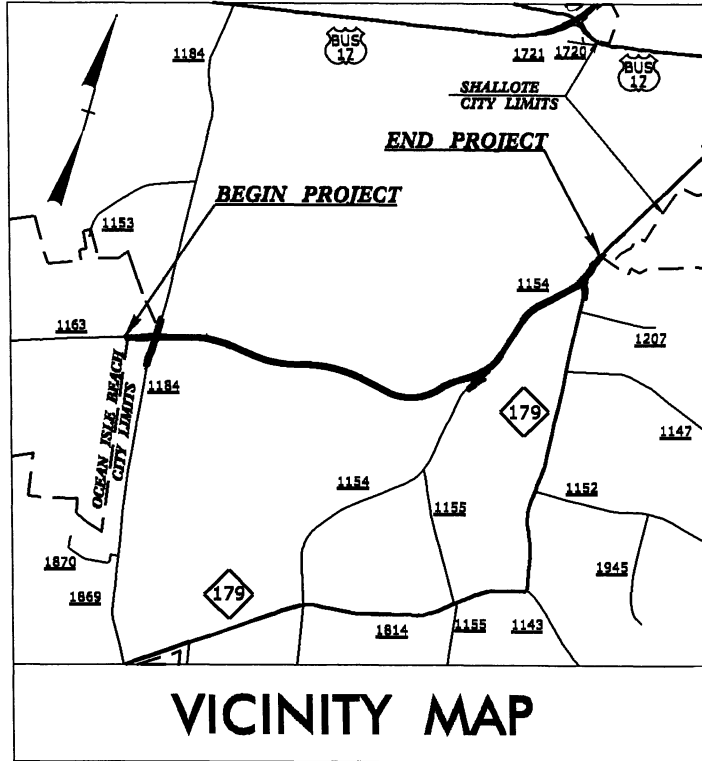
BRUNSWICK COUNTY

LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

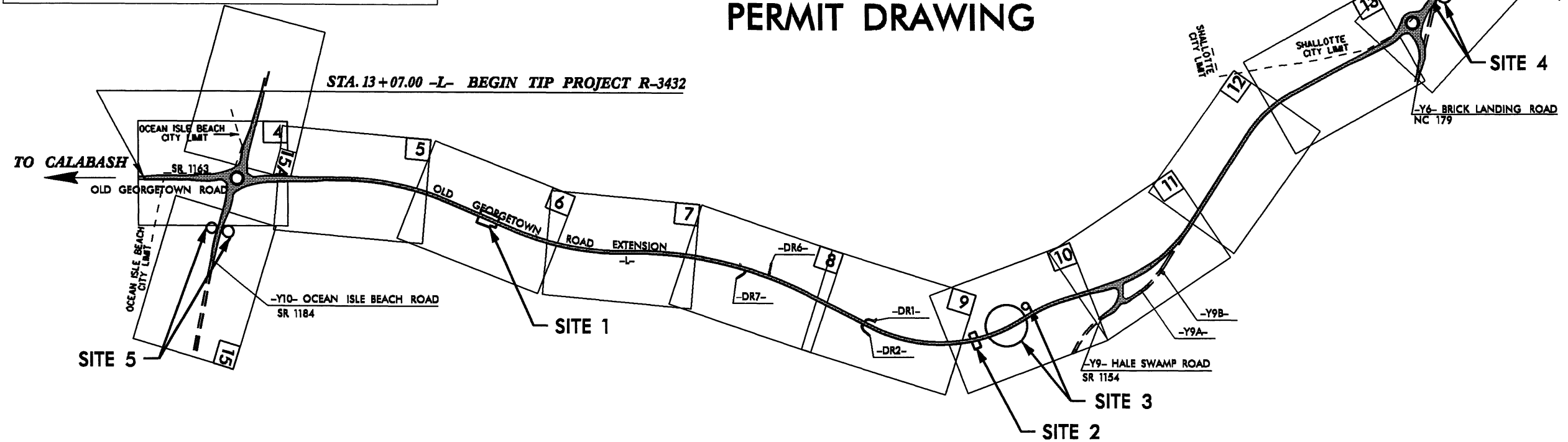
Permit Drawing Sheet 1 of 29

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



TIP PROJECT: R-3432

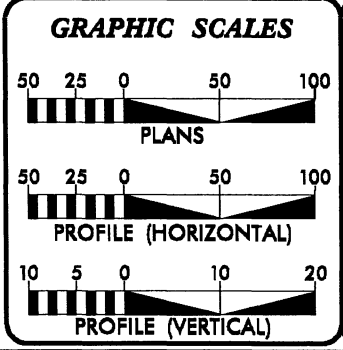
WETLAND & SURFACE WATER PERMIT DRAWING



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF OCEAN ISLE BEACH AND SHALLOTTE. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2013 =	7,312
ADT 2033 =	12,592
DHV =	55 %
D =	13 %
T =	3 % *
V =	60 MPH
* (TTST 1 % + DUAL 2 %)	
FUNC. CLASS. =	COLLECTOR
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3432	=	2.859 MILES
TOTAL LENGTH TIP PROJECT R-3432	=	2.859 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 29, 2011

LETTING DATE:
JUNE 18, 2013

G. E. BREW, PE
PROJECT ENGINEER

THAD F. DUNCAN, 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

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

Permit Drawing
Sheet 2 of 29
R-3432
SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 3484 (OCEAN ISLE BEACH RD.) TO NC 119

WETLAND & SURFACE WATER PERMIT DRAWING

STA. 13+09.00 -L- BEGIN TIP PROJECT R-3432

STA. 164+00.00 -L- END TIP PROJECT R-3432

TO CALABASH

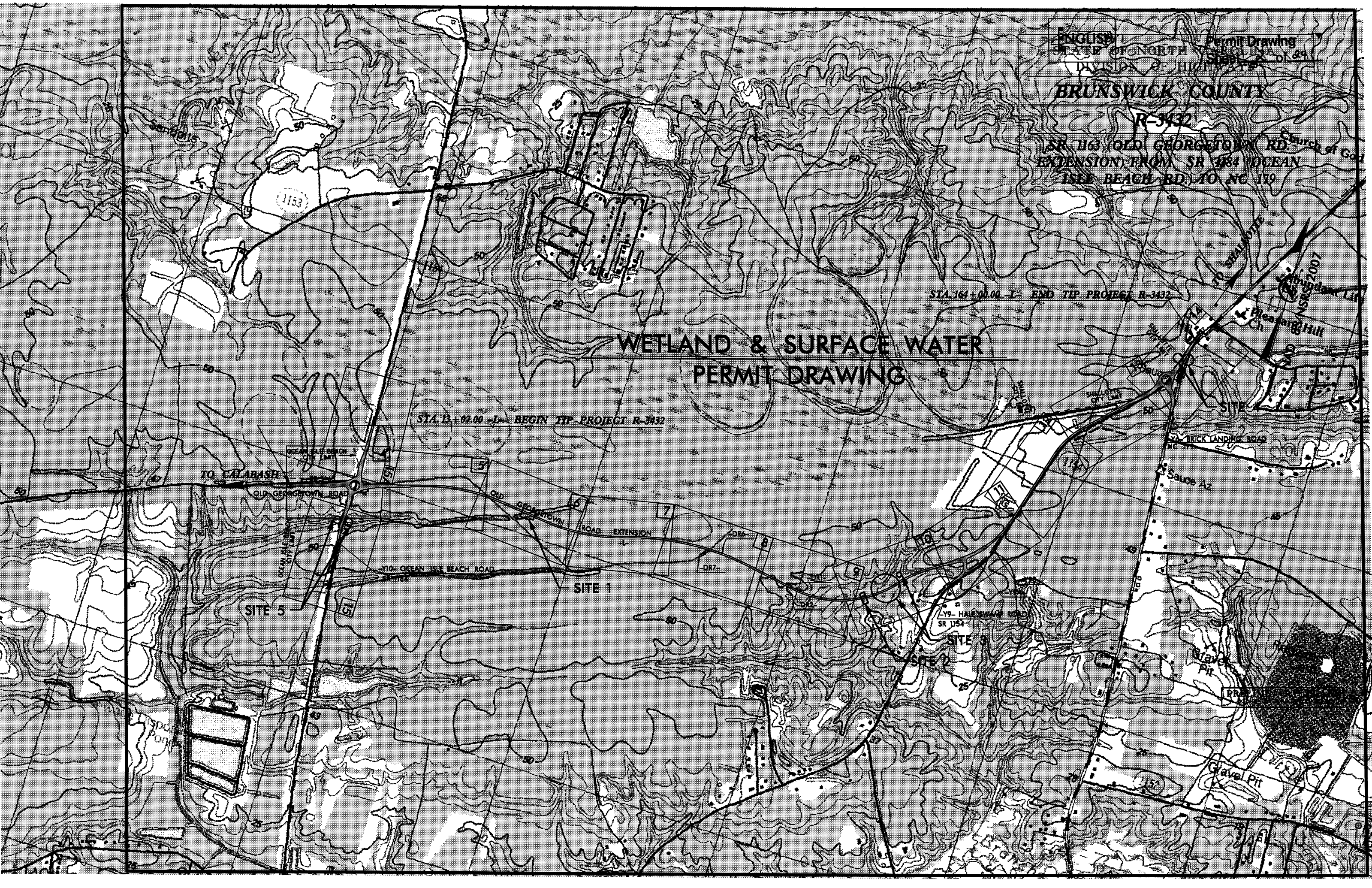
SITE 5

SITE 1

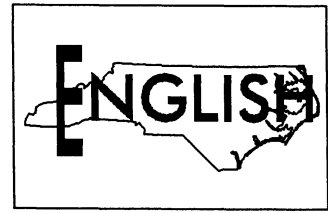
SITE 2

SITE 3

Gravel Pit

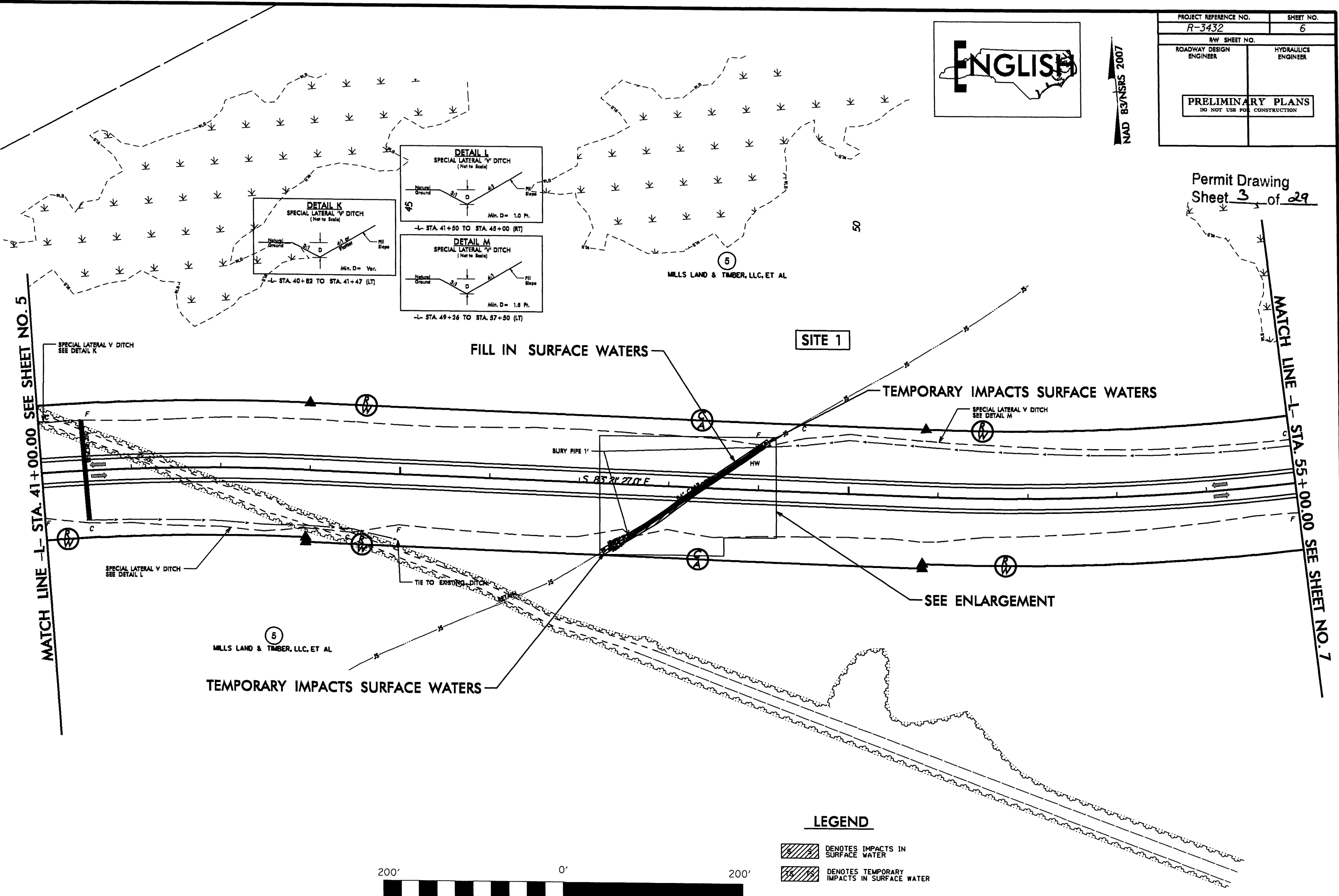


PROJECT REFERENCE NO. R-3432		SHEET NO. 6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



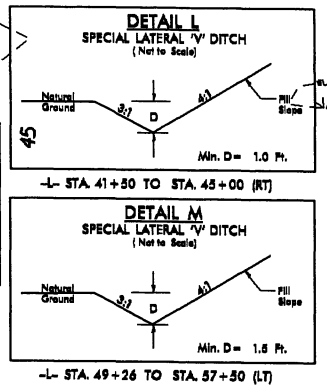
NAD 83/NSRS 2007

Permit Drawing Sheet 3 of 29



MATCH LINE -L- STA. 41+00.00 SEE SHEET NO. 5

MATCH LINE -L- STA. 55+00.00 SEE SHEET NO. 7



SITE 1

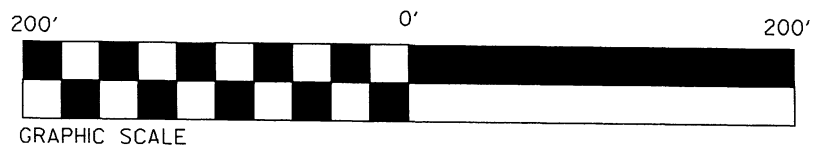
TEMPORARY IMPACTS SURFACE WATERS

SEE ENLARGEMENT

TEMPORARY IMPACTS SURFACE WATERS

LEGEND

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



FOR -L- PROFILE SEE SHEET 17

R/W REV.: REVISING PDE ON PARCEL 5. 5/9/12 TFD
R/W REV.: REMOVING PDE ON PARCEL 5. 5/14/12 TFD

8/17/14

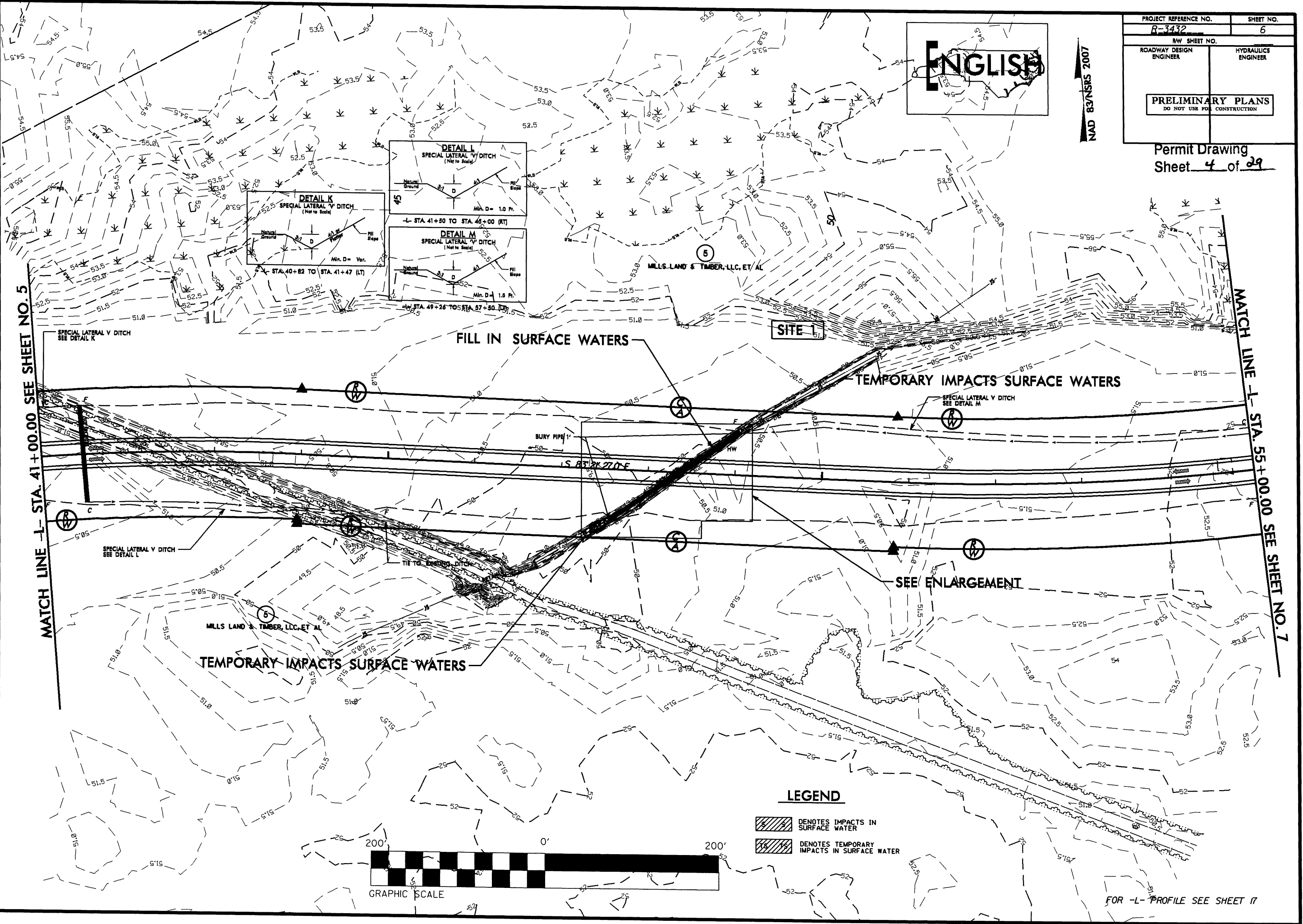
8/17/99

PROJECT REFERENCE NO. R-3432		SHEET NO. 6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



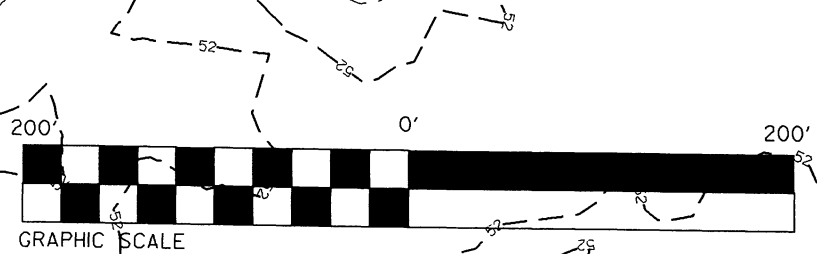
NAD 83/NRS 2007

Permit Drawing
Sheet 4 of 29

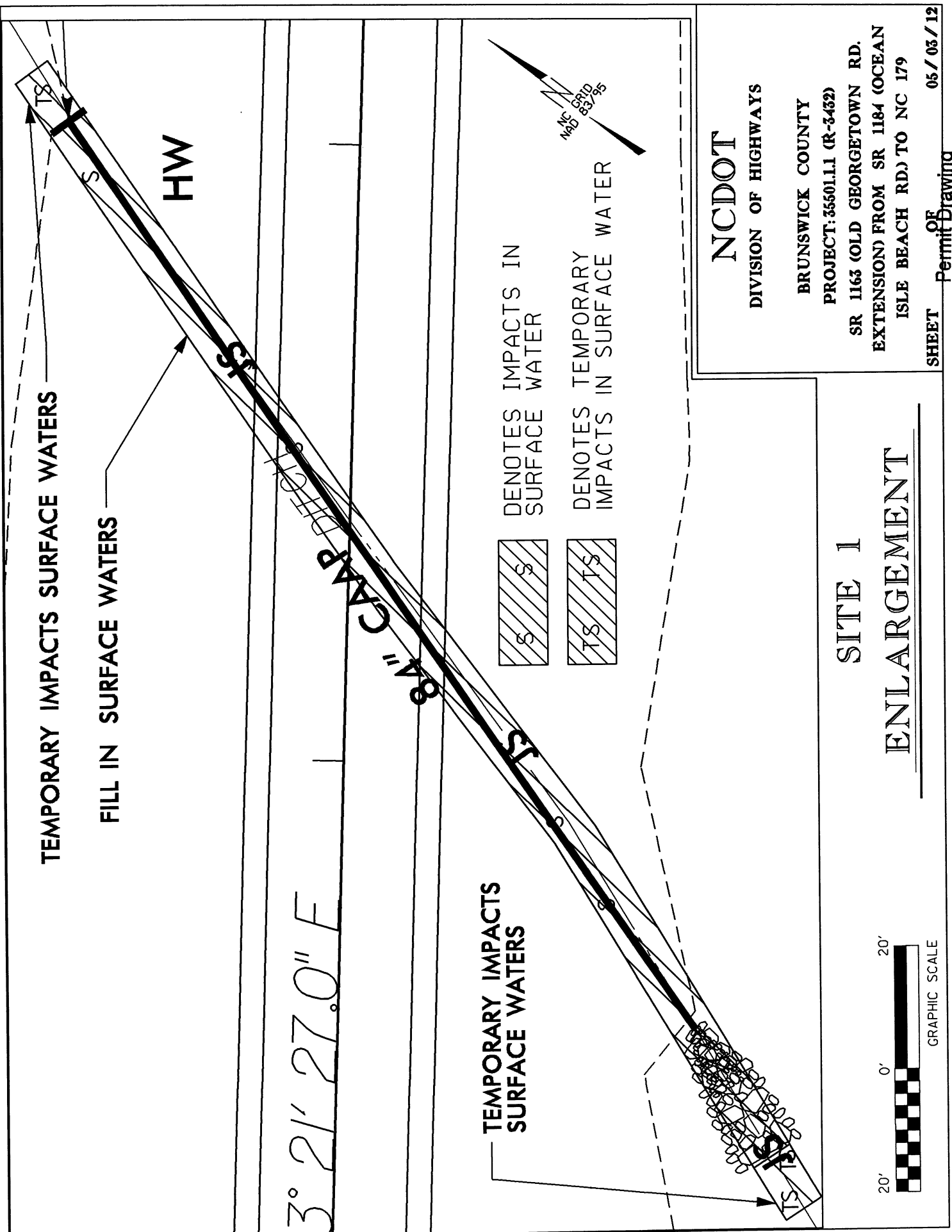


R/W REV.: REVISING PDE ON PARCEL 5. 5/9/12 TFD
 R/W REV.: REMOVING PDE ON PARCEL 5. 5/14/12 TFD

 CUSTOME



FOR -L- PROFILE SEE SHEET 17



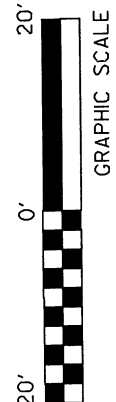
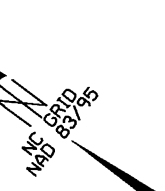
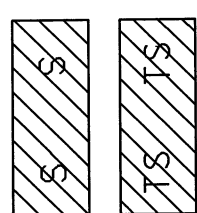
TEMPORARY IMPACTS SURFACE WATERS
 FILL IN SURFACE WATERS

HW

3° 21' 27.0" E

8" CAP

TEMPORARY IMPACTS SURFACE WATERS



SITE 1
 ENLARGEMENT

NCDOT
 DIVISION OF HIGHWAYS
 BRUNSWICK COUNTY
 PROJECT: 35501.1.1 (R-3482)

SR 1163 (OLD GEORGETOWN RD.
 EXTENSION) FROM SR 1184 (OCEAN
 ISLE BEACH RD.) TO NC 179

SITE 1 JURISDICTIONAL STREAM PROFILE

NC DOT

DIVISION OF HIGHWAYS

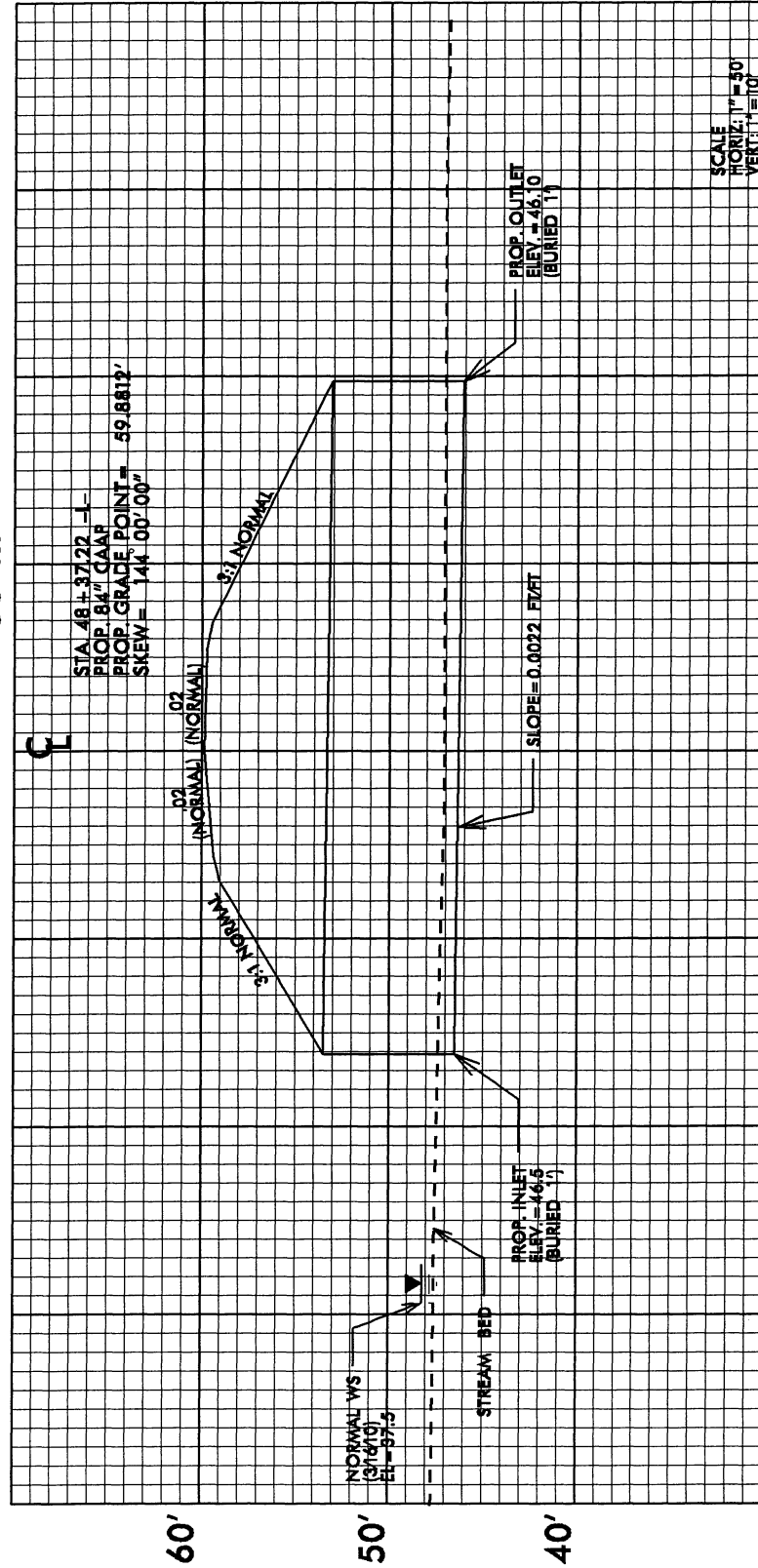
BRUNSWICK COUNTY

PROJECT: 55501.1.1 (R-3432)

SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

SHEET 05 OF 03 / 12

150' LT 100' LT 50' LT 0 50' RT 100' RT 150' RT



Permit Drawing
Sheet 6 of 12

5/28/99

PROJECT REFERENCE NO. R-3432	SHEET NO. 17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS FOR THE PROPOSED CONSTRUCTION Permit Drawing	
Sheet 7 of 29	

PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 0601/0602

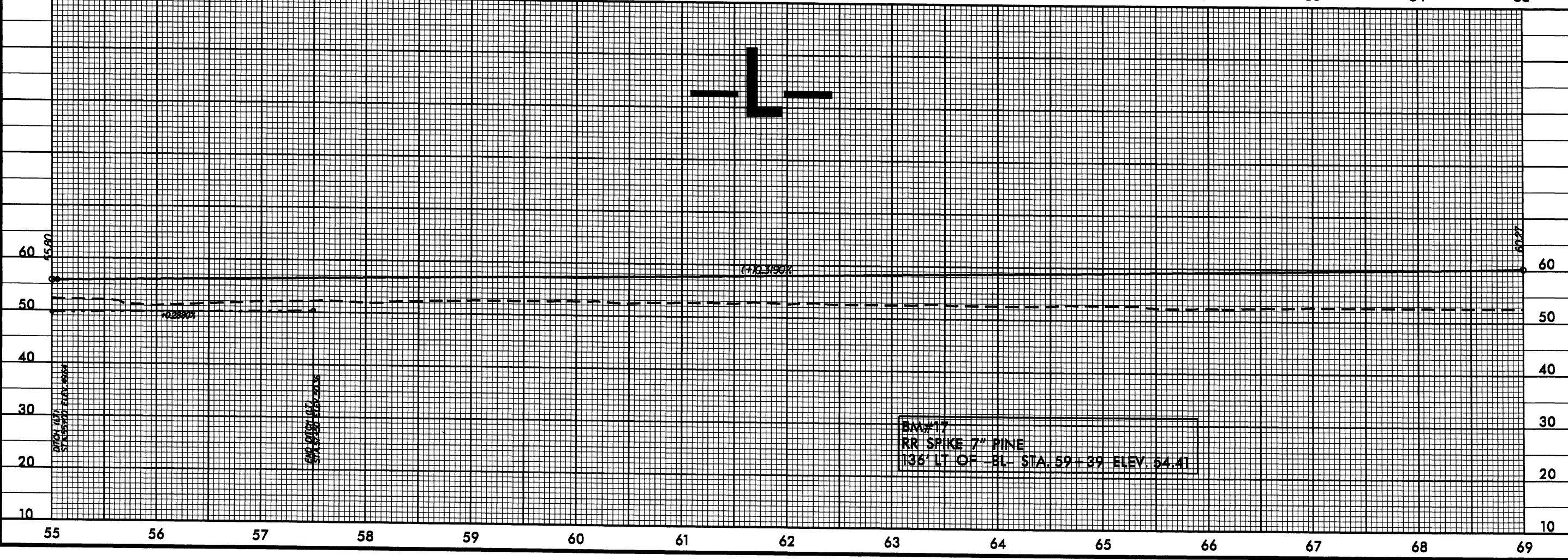
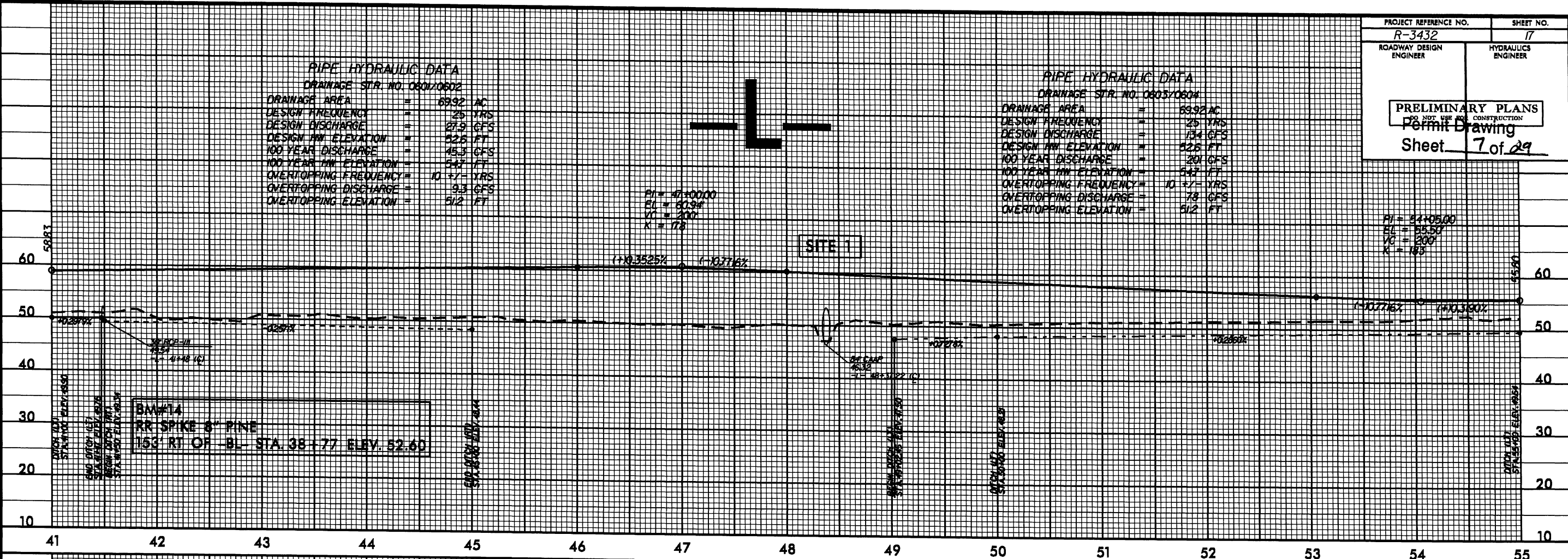
DRAINAGE AREA = 6992 AC
DESIGN FREQUENCY = 25 YRS
DESIGN DISCHARGE = 27.9 CFS
DESIGN HW ELEVATION = 526 FT
100 YEAR DISCHARGE = 45.3 CFS
100 YEAR HW ELEVATION = 547 FT
OVERTOPPING FREQUENCY = 10 +/- YRS
OVERTOPPING DISCHARGE = 9.3 CFS
OVERTOPPING ELEVATION = 512 FT

PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 0603/0604

DRAINAGE AREA = 6992 AC
DESIGN FREQUENCY = 25 YRS
DESIGN DISCHARGE = 134 CFS
DESIGN HW ELEVATION = 526 FT
100 YEAR DISCHARGE = 201 CFS
100 YEAR HW ELEVATION = 547 FT
OVERTOPPING FREQUENCY = 10 +/- YRS
OVERTOPPING DISCHARGE = 78 CFS
OVERTOPPING ELEVATION = 512 FT

PI = 47+00.00
BL = 80.34
VC = 200
K = 7.8

PI = 54+05.00
BL = 55.50
VC = 200
K = 18.5



SYSTEMS
 CONSULTANTS
 INC.
 10000
 WILSON
 AVENUE
 SUITE 100
 FORT WORTH, TX 76116
 (817) 339-9200
 FAX (817) 339-9201
 WWW.SCI-CO.COM

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-3432	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 8 of 29

LEGEND

- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

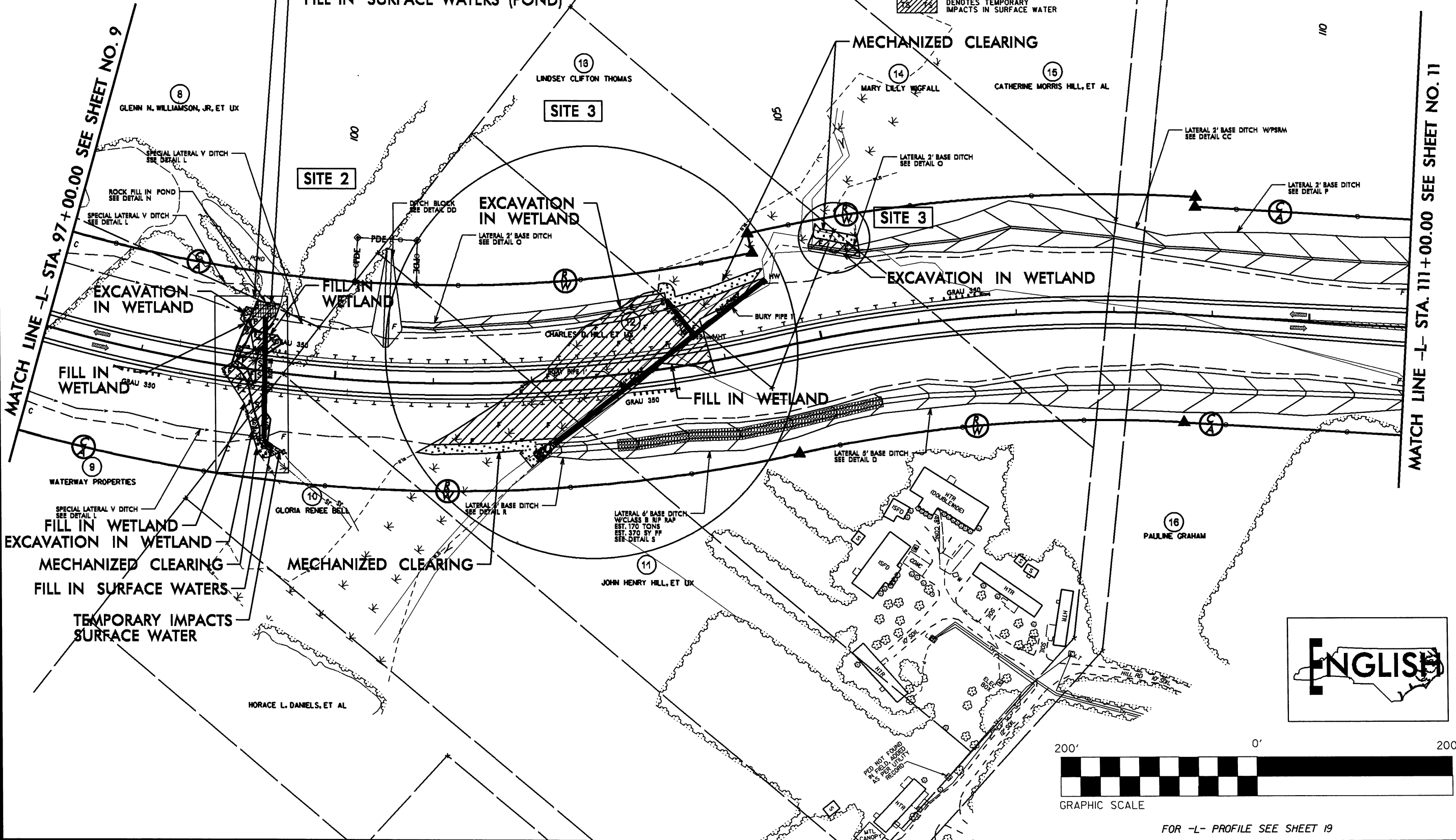
NAD 83/NRS 2007

-L-

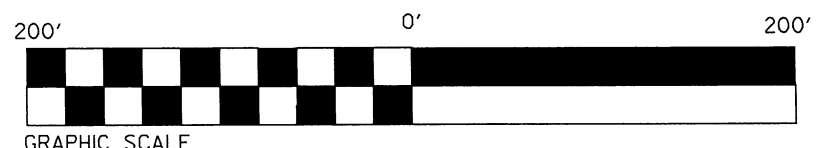
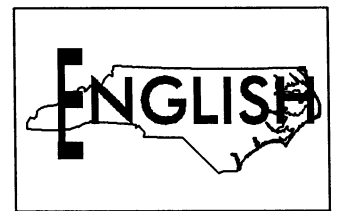
PI Sta 97+39.71	PI Sta 106+65.62
Δ = 60° 46' 46" (LT)	Δ = 16° 16' 03" (RT)
D = 3' 49" 11.0"	D = 3' 49" 11.0"
L = 1591.20'	L = 425.89'
T = 879.68'	T = 214.39'
R = 1500.00'	R = 1500.00'
SE = .04	SE = .04
RO = 108'	RO = 108'

SEE ENLARGEMENT
FILL IN SURFACE WATERS (POND)

MECHANIZED CLEARING



REVISIONS








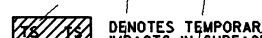
FOR -L- PROFILE SEE SHEET 19

8/17/99

PROJECT REFERENCE NO. R-3432	SHEET NO. 10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet **9** of **29**

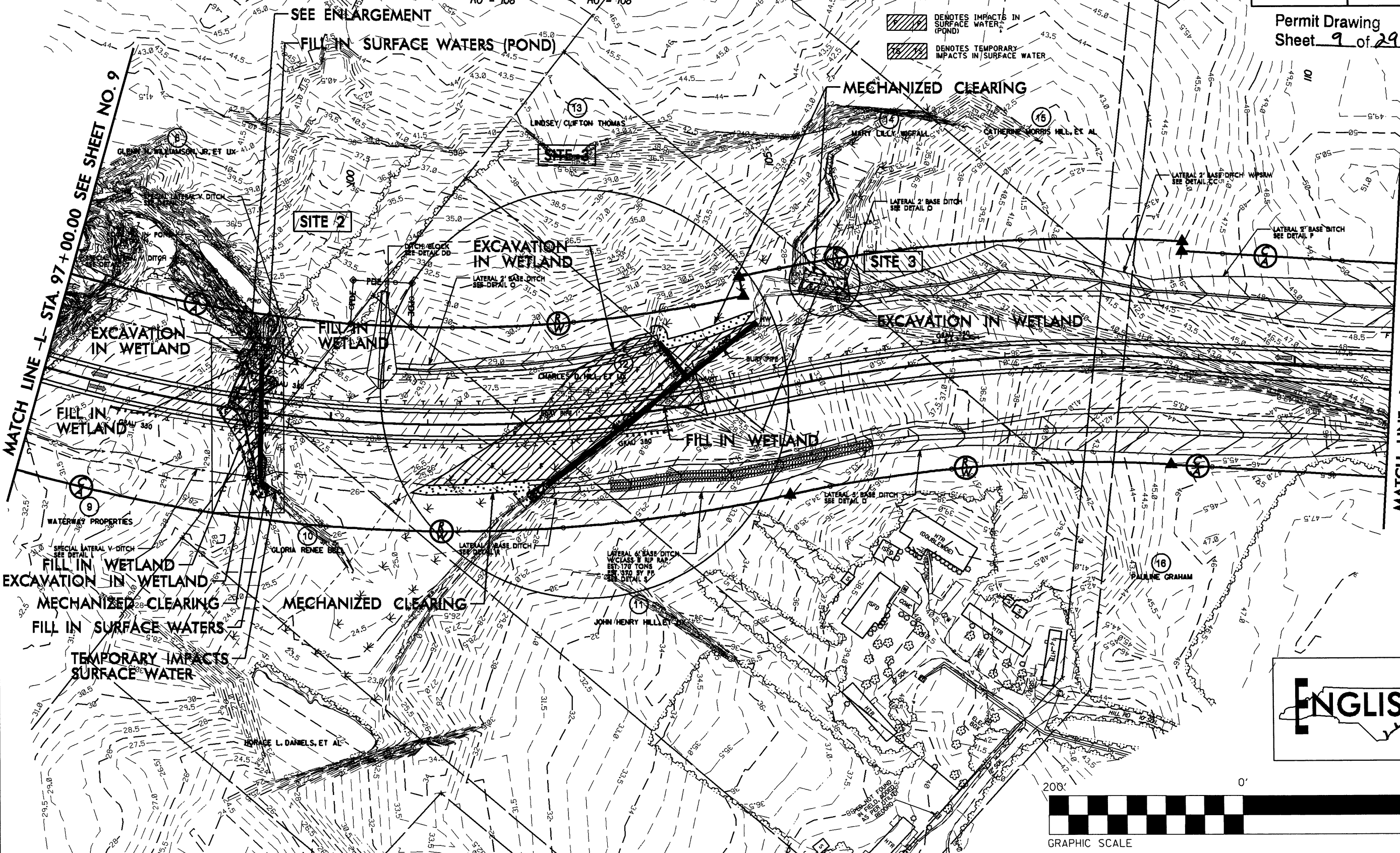
LEGEND

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER (POND)
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PI Sta 97+39.71
 $\Delta = 60' 46'' (1/4'')$
 $D = 3' 49'' (1/0'')$
 $L = 71591.20'$
 $T = 87988'$
 $R = 1508.00'$
 $SE = 30.4'$
 $RO = 108'$

PI Sta 106+65.62
 $\Delta = 46' 16'' (3/16'')$
 $D = 3' 49'' (1/0'')$
 $L = 425.99'$
 $T = 214.39'$
 $R = 1500.00'$
 $SE = 30.4'$
 $RO = 108'$

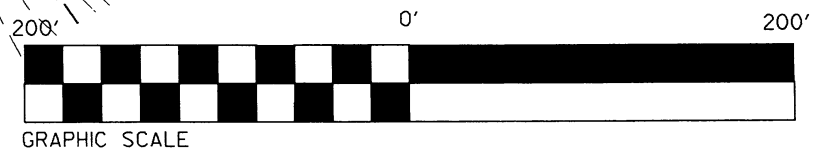
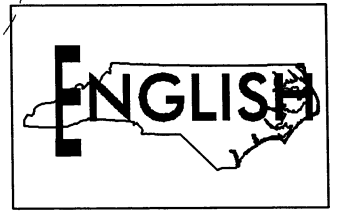


MATCH LINE -L- STA. 97+00.00 SEE SHEET NO. 9

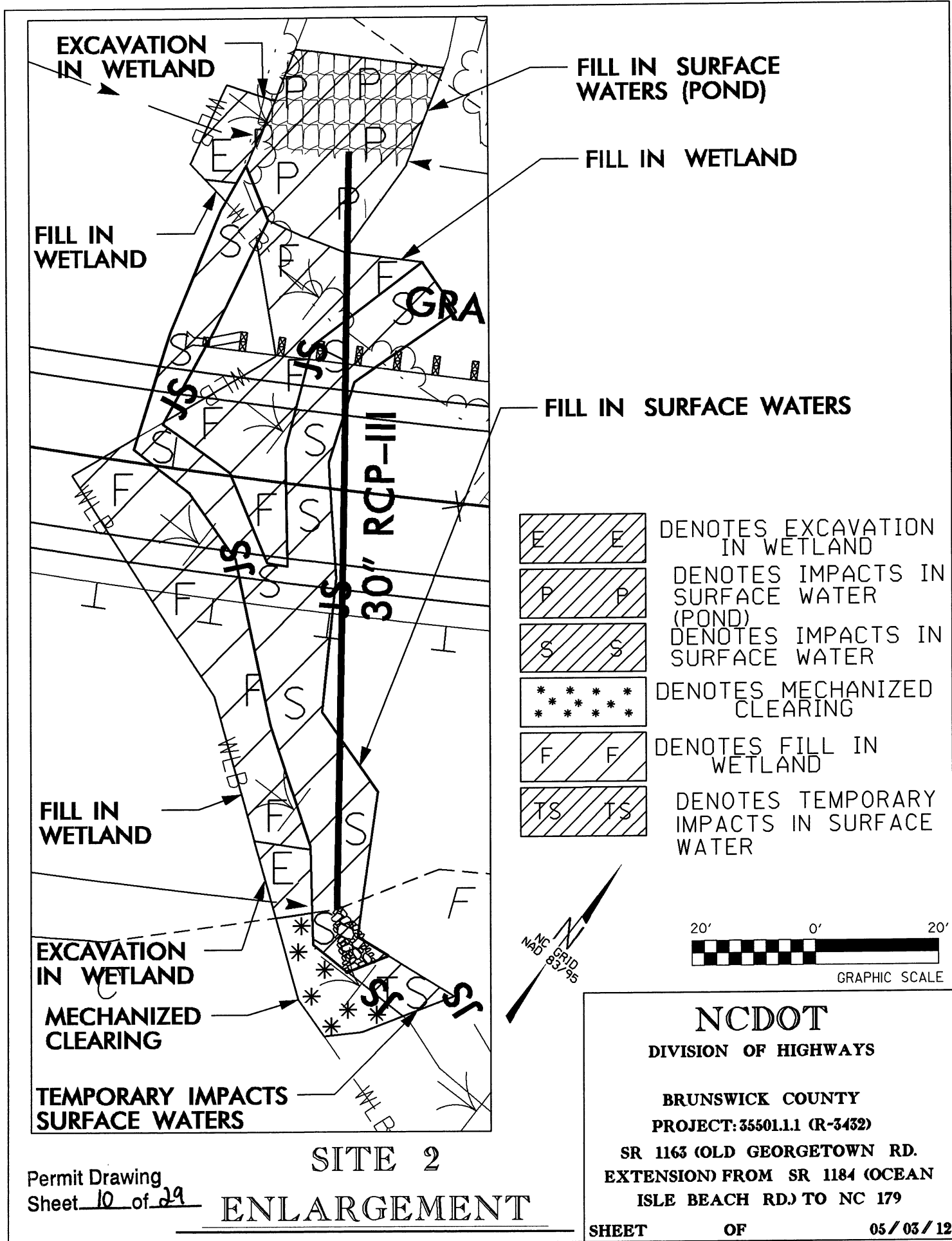
MATCH LINE -L- STA. 111+00.00 SEE SHEET NO. 11

REVISIONS

*****SYSTEMS DIVISION*****
*****DATE*****
*****DRAWN BY*****



FOR -L- PROFILE SEE SHEET 19



EXCAVATION IN WETLAND

FILL IN SURFACE WATERS (POND)




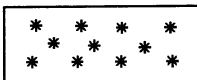

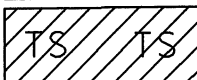
FILL IN WETLAND

FILL IN WETLAND

GRA

FILL IN SURFACE WATERS

30" RCP-III

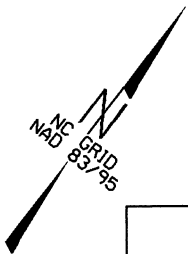
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES IMPACTS IN SURFACE WATER (POND)
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FILL IN WETLAND

DENOTES FILL IN WETLAND

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

EXCAVATION IN WETLAND



GRAPHIC SCALE

MECHANIZED CLEARING

TEMPORARY IMPACTS SURFACE WATERS

NCDOT
DIVISION OF HIGHWAYS

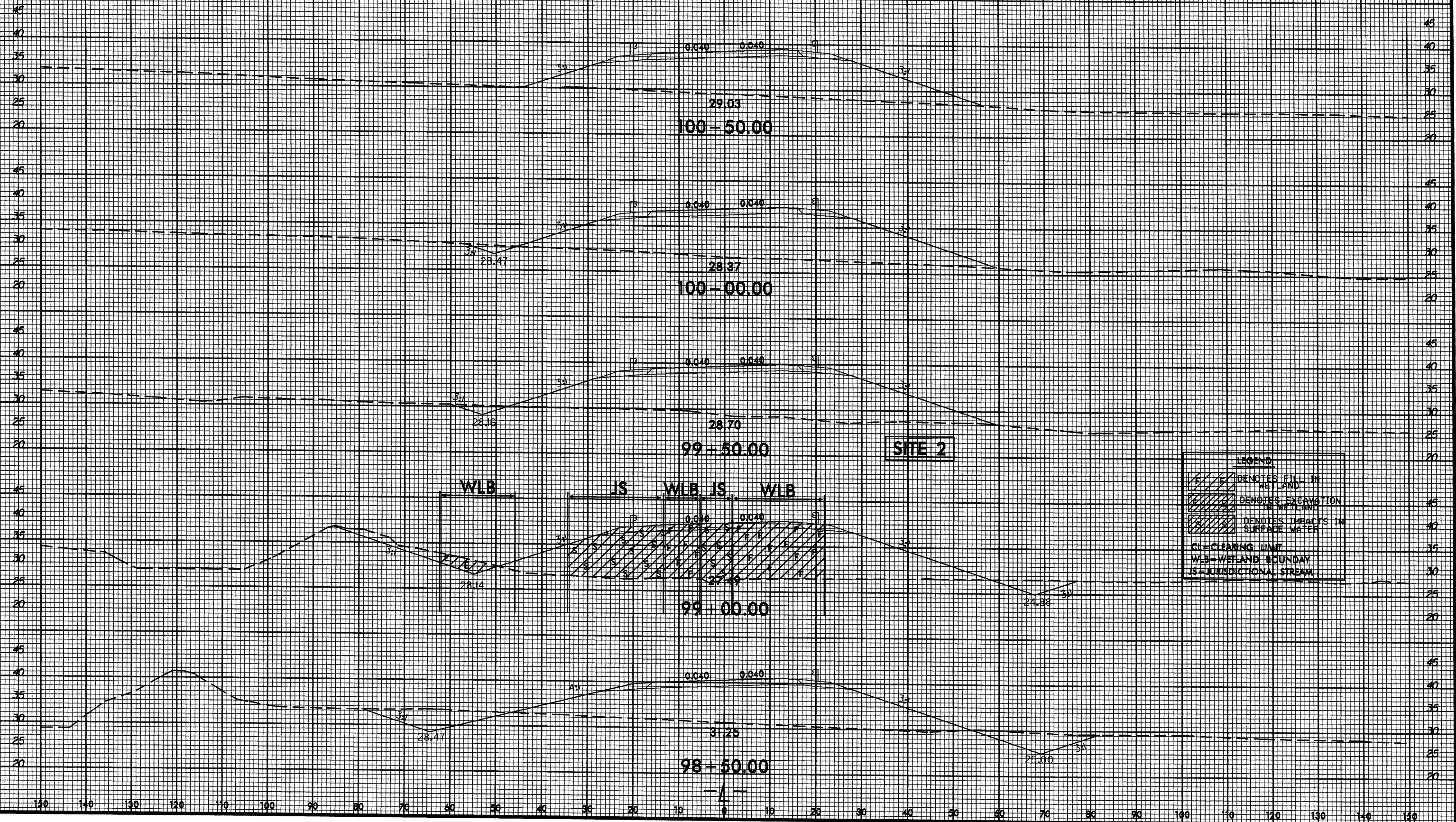
BRUNSWICK COUNTY
PROJECT: 35501.1.1 (R-3432)
SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

SITE 2

ENLARGEMENT

Permit Drawing
Sheet 10 of 29

Permit Drawing
Sheet II of 09



SYTIME
SYSDON
SYNAME
SYLEN

5/28/99

PROJECT REFERENCE NO. R-3432	SHEET NO. 19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

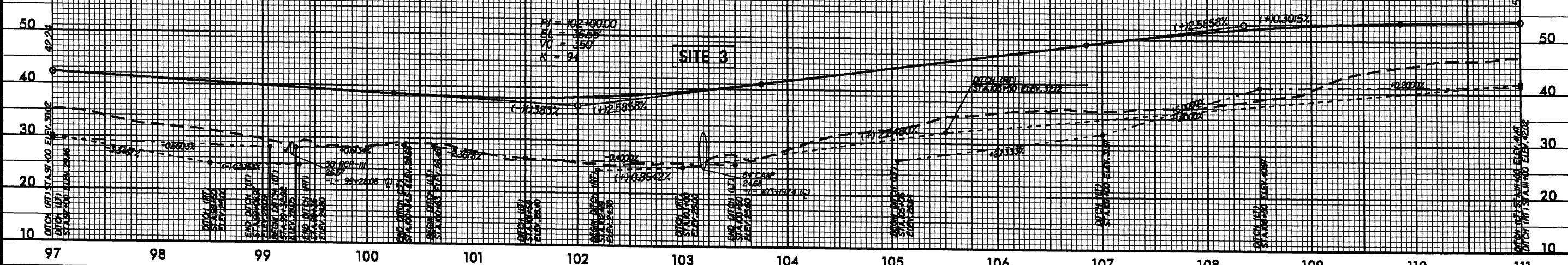
PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 1005/1006

DRAINAGE AREA	=	146 AC
DESIGN FREQUENCY	=	25 YRS
DESIGN DISCHARGE	=	26 CFS
DESIGN HW ELEVATION	=	30.8 FT
100 YEAR DISCHARGE	=	34 CFS
100 YEAR HW ELEVATION	=	31.2 FT
OVERTOPPING FREQUENCY	=	500 YRS
OVERTOPPING DISCHARGE	=	44 CFS
OVERTOPPING ELEVATION	=	33 FT

PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 1002/1004

DRAINAGE AREA	=	82.5 AC
DESIGN FREQUENCY	=	25 YRS
DESIGN DISCHARGE	=	180 CFS
DESIGN HW ELEVATION	=	32 FT
100 YEAR DISCHARGE	=	270 CFS
100 YEAR HW ELEVATION	=	33.8 FT
OVERTOPPING FREQUENCY	=	100 YRS
OVERTOPPING DISCHARGE	=	235 CFS
OVERTOPPING ELEVATION	=	33 FT

PI = 102+15.00
EL = 52.37
VC = 300
K = 131



Permit Drawing
Sheet 12 of 29

SITE 3

PI = 116+94.00
EL = 58.96
VC = 200
K = 138

PI = 121+50.00
EL = 50.75
VC = 200
K = 138

BM #26
RR SPIKE 3" PINE
89' LT OF BL STA 118+70 ELEV. 50.72

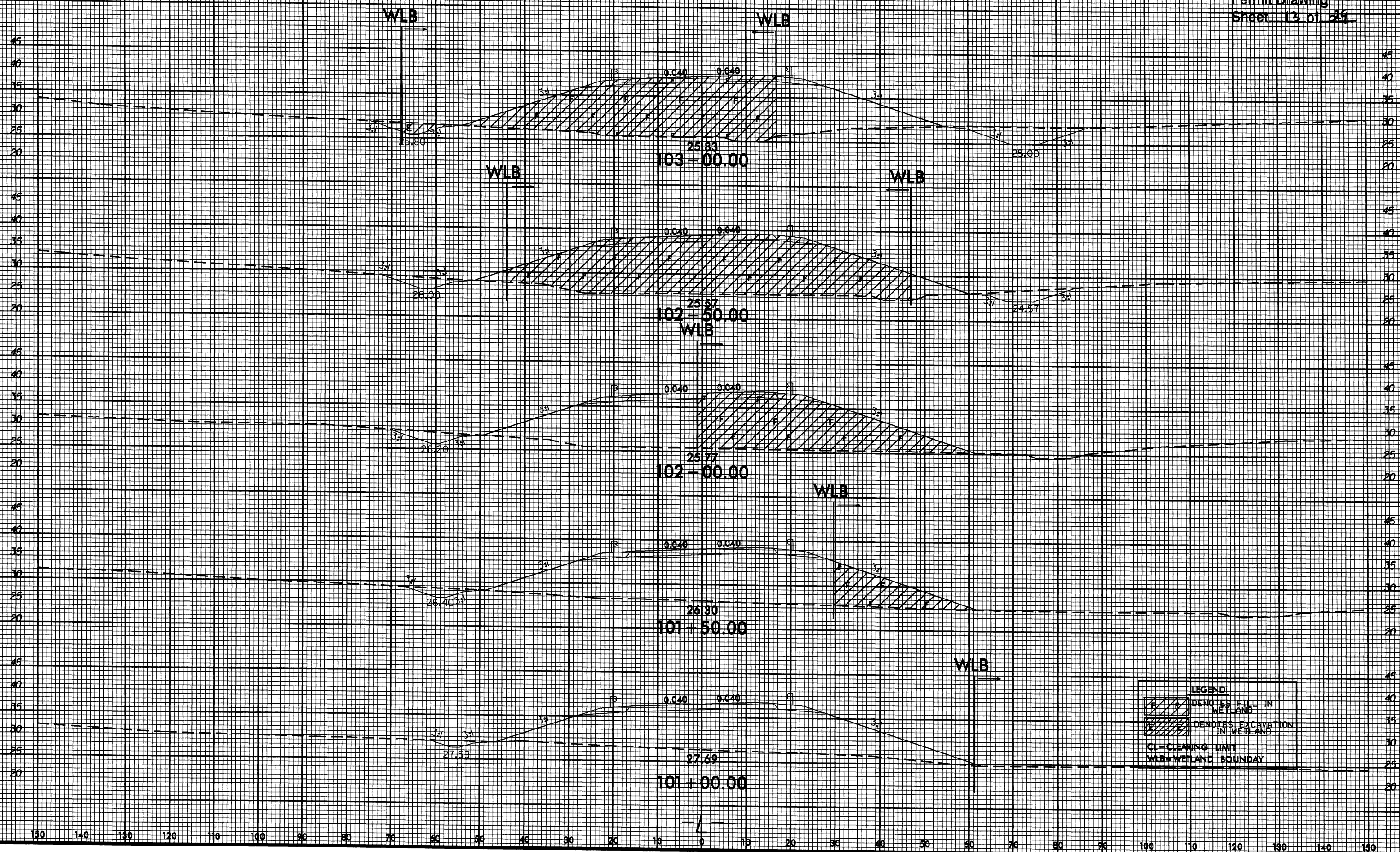
ST TIME
DATE
BY

111 112 113 114 115 116 117 118 119 120 121 122 123 124 125

8/23/99

SITE 3

Permit Drawing
Sheet 13 of 24

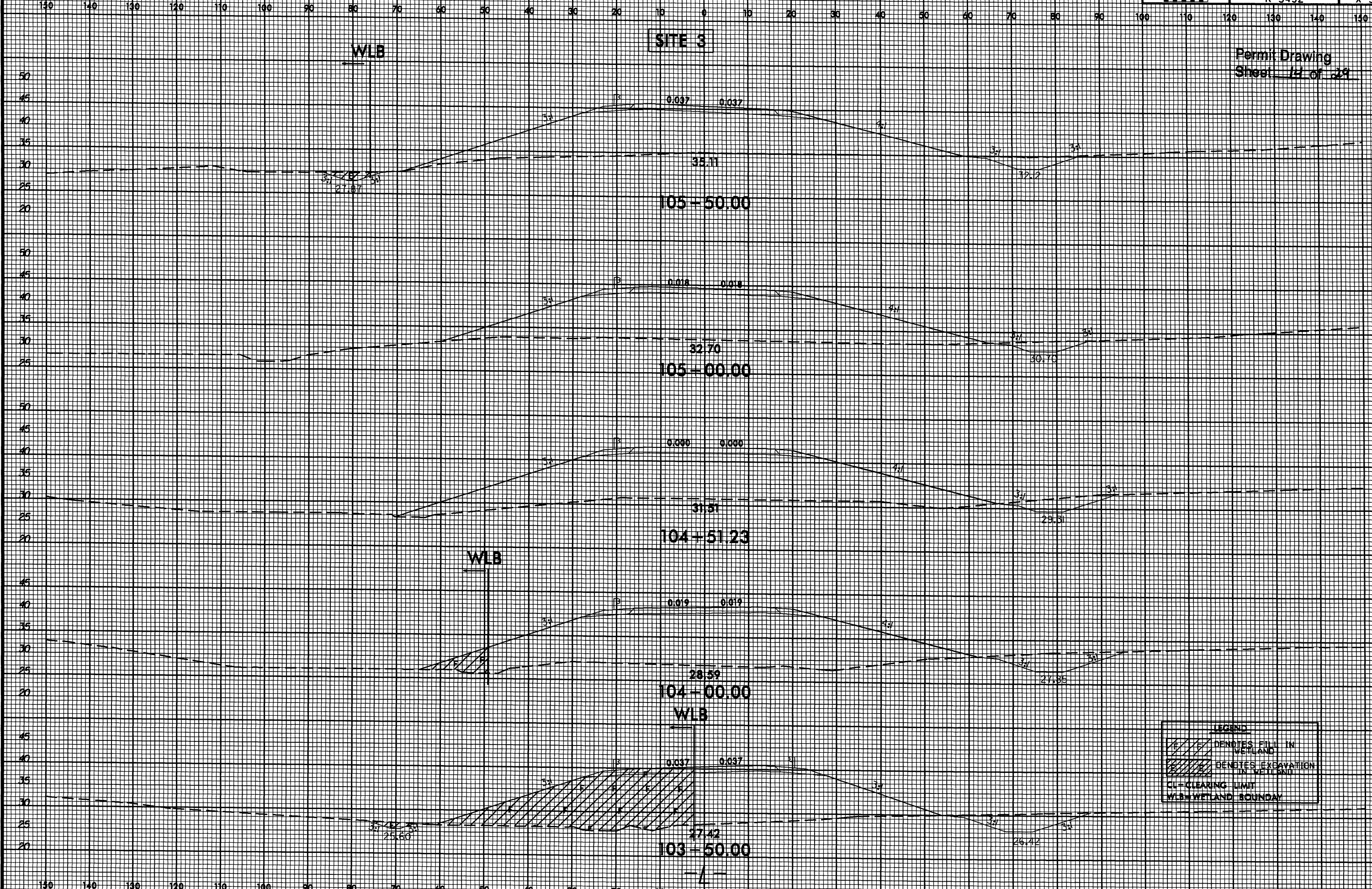


LEGEND

- [Hatched Area] DENOTES FILL IN WETLAND
- [Hatched Area] DENOTES EXCAVATION IN WETLAND
- CL = CLEARING LIMIT
- WLB = WETLAND BOUNDARY

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USERNM\$\$\$\$\$

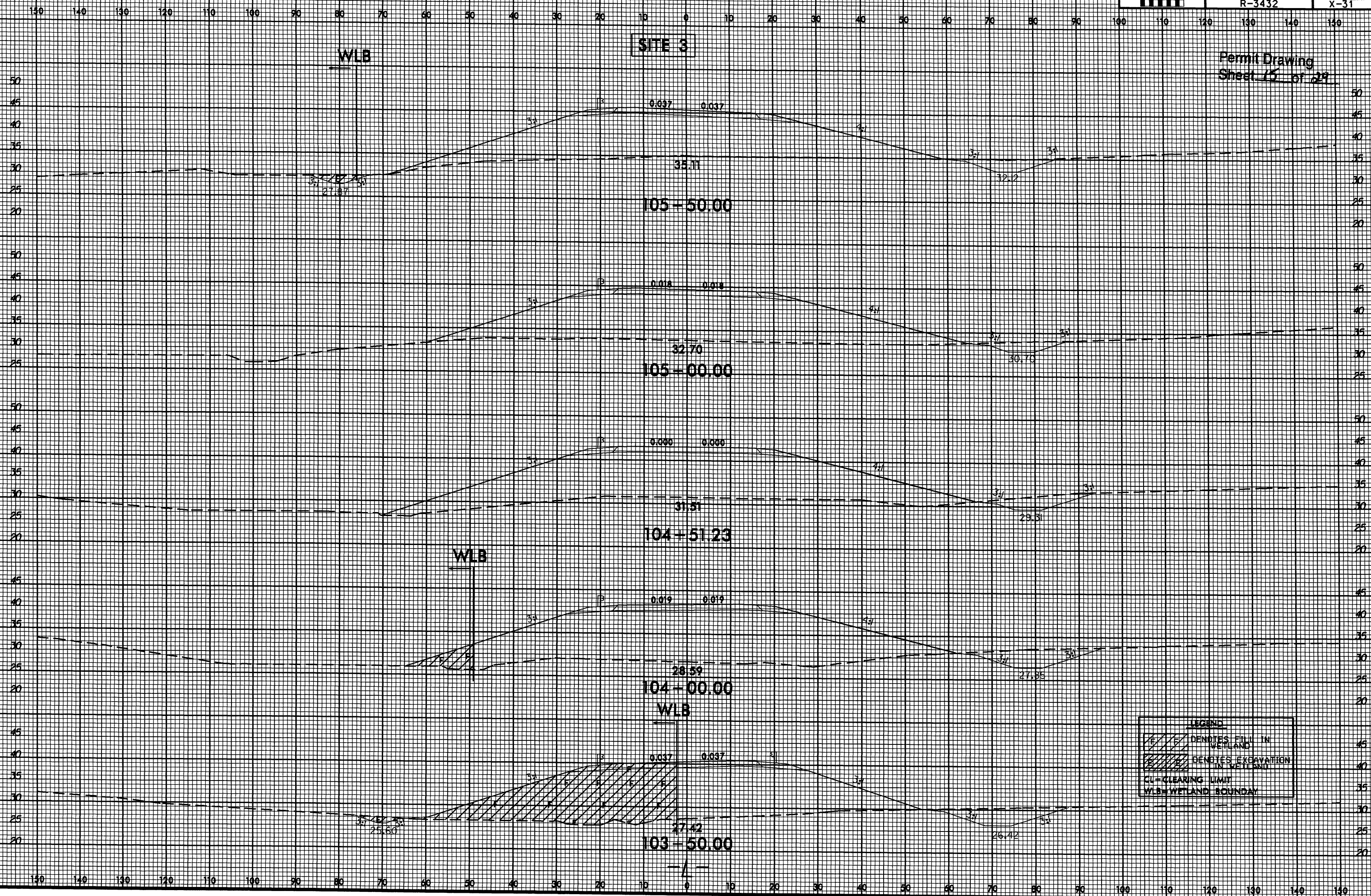
8/23/99
SYSTEMS
DRAWING
NAME



LEGEND

- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- CL = CLEARING LIMIT
- WLB = WETLAND BOUNDARY

8/23/03



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USFRNMM\$\$\$\$\$
\$\$\$\$\$DCNPN\$\$\$\$\$

LEGEND

- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- CL - CLEARING LIMIT
- WLB - WETLAND BOUNDARY

Permit Drawing
Sheet 16 of 29
REVISED 2/14/13

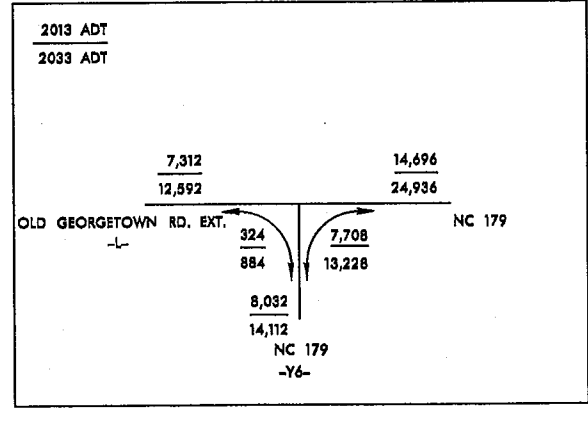
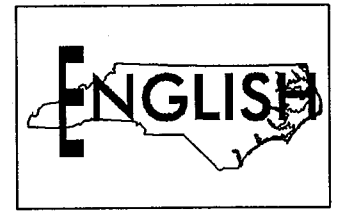
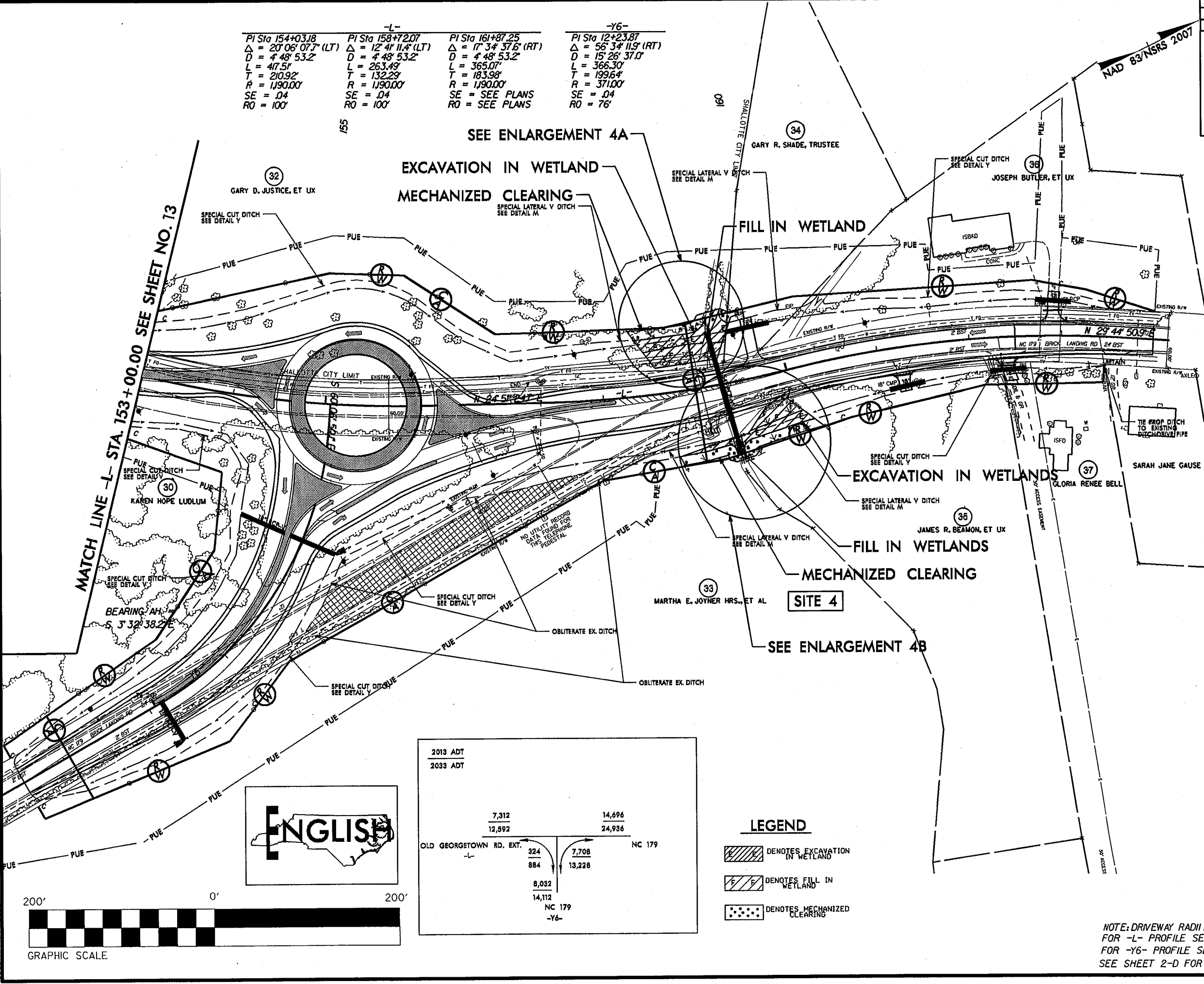
-L-		-Y6-	
PI Sta 154+03.18	PI Sta 158+72.07	PI Sta 161+87.25	PI Sta 12+23.87
$\Delta = 20^{\circ} 06' 07.7"$ (LT)	$\Delta = 12^{\circ} 41' 11.4"$ (LT)	$\Delta = 17^{\circ} 34' 37.6"$ (RT)	$\Delta = 56^{\circ} 34' 11.9"$ (RT)
D = 448' 53.2"	D = 448' 53.2"	D = 448' 53.2"	D = 15' 26' 37.0"
L = 417.5'	L = 263.49'	L = 365.07'	L = 366.30'
T = 210.92'	T = 132.29'	T = 183.98'	T = 199.64'
R = 1,190.00'	R = 1,190.00'	R = 1,190.00'	R = 371.00'
SE = .04	SE = .04	SE = SEE PLANS	SE = .04
RO = 100'	RO = 100'	RO = SEE PLANS	RO = 76'

B/17/99

REVISIONS

RAW-REV-REVISING PUE ON PARCEL 30-5/14/12 TFD

SYTIME
DGN
DWG



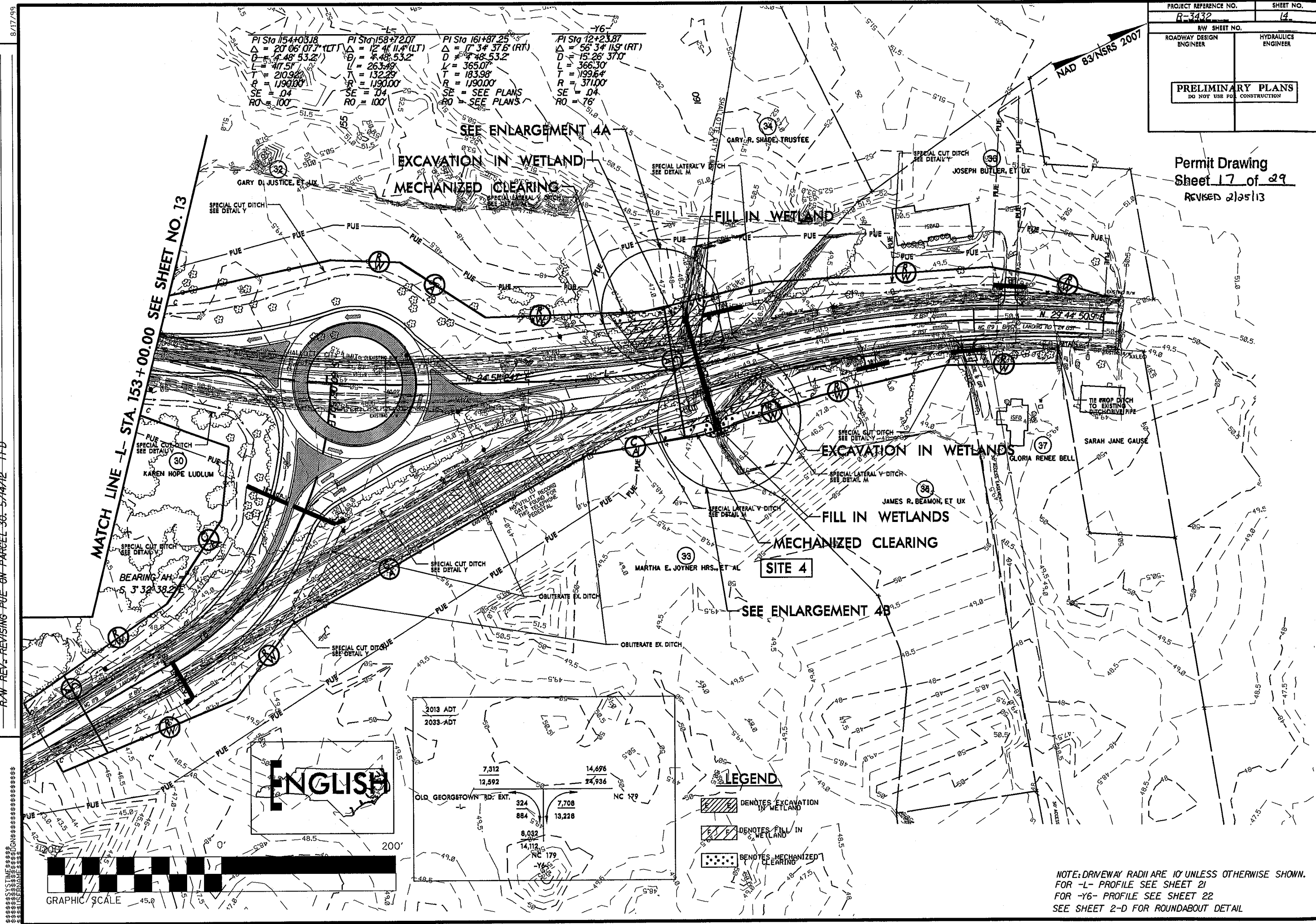
LEGEND

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

NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.
FOR -L- PROFILE SEE SHEET 21
FOR -Y6- PROFILE SEE SHEET 22
SEE SHEET 2-D FOR ROUNDABOUT DETAIL

PROJECT REFERENCE NO. R-3432	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

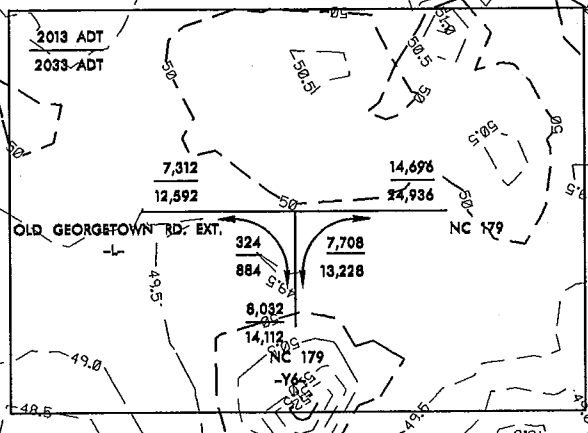
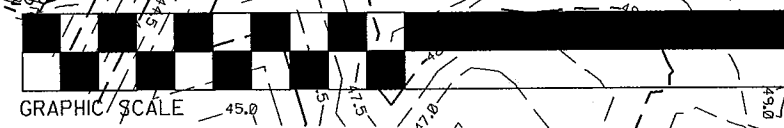
Permit Drawing
Sheet 17 of 29
REVISED 2/25/13



PI Sta	Δ	D	L	T	R	SE	RO
1154+03.18	20° 06' 07.7" (LT)	48.53.2'	47.5'	210.92'	1190.00'	.04	100'
158+72.07	12° 41' 11.4" (LT)	48.53.2'	263.49'	132.29'	1190.00'	.04	100'
161+87.25	17° 34' 37.6" (RT)	48.53.2'	365.07'	183.98'	1190.00'	SEE PLANS	SEE PLANS
12+23.87	56° 34' 11.9" (RT)	15.26.37'	366.30'	199.64'	371.00'	.04	76'

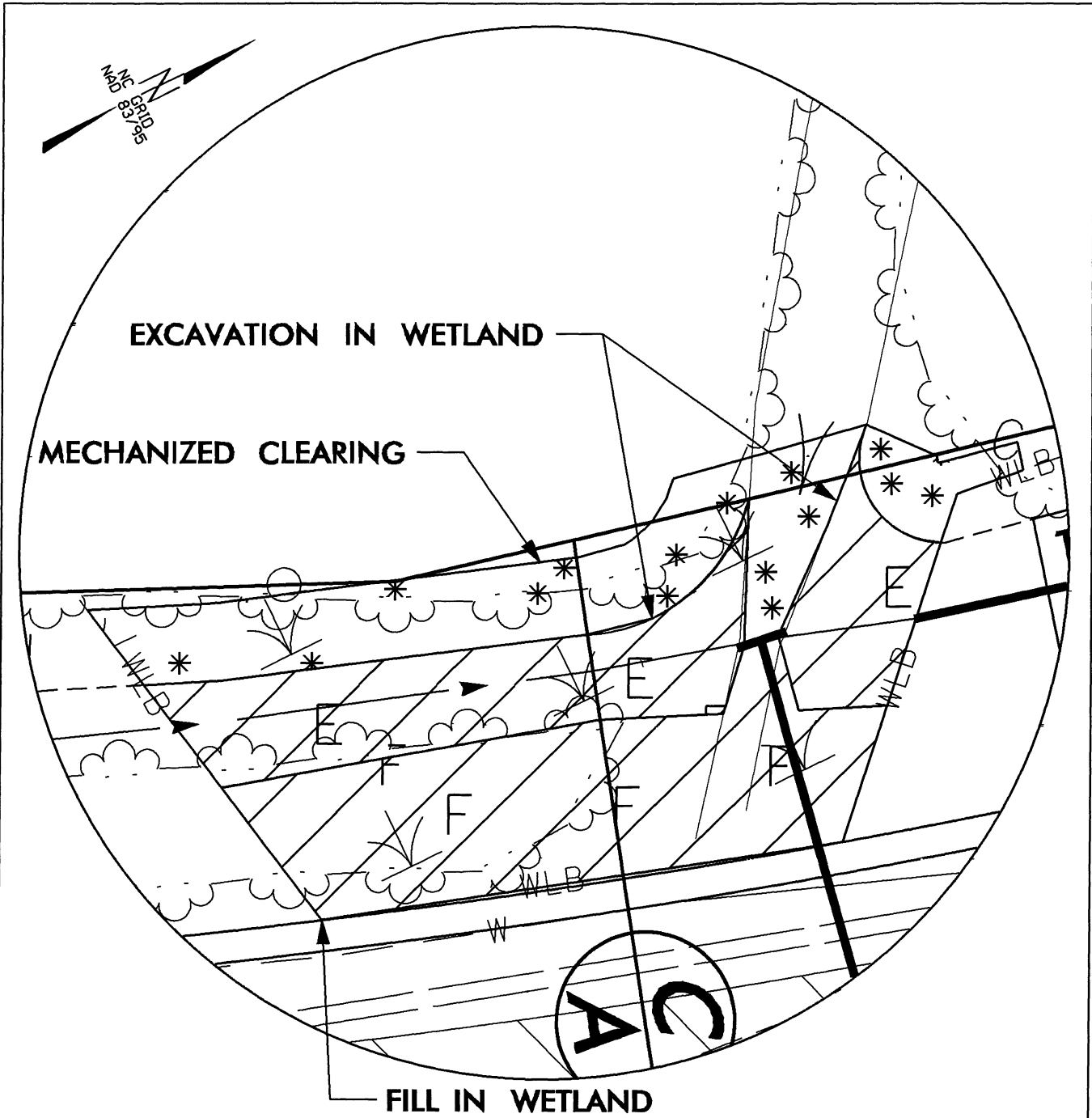
REVISIONS
RAW REV-REVISING PUE ON PARCEL 30-5/14/12 TFD

DATE: 2/25/13
TIME: 10:00 AM
DRAWN BY: JLD
CHECKED BY: JLD
SCALE: AS SHOWN

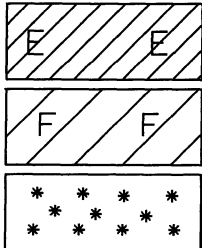


- LEGEND**
- DENOTES EXCAVATION IN WETLAND
 - DENOTES FILL IN WETLAND
 - DENOTES MECHANIZED CLEARING

NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.
FOR -L- PROFILE SEE SHEET 21
FOR -Y6- PROFILE SEE SHEET 22
SEE SHEET 2-D FOR ROUNDABOUT DETAIL

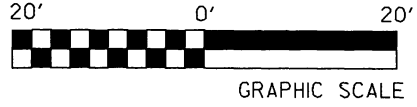


SITE 4A ENLARGEMENT

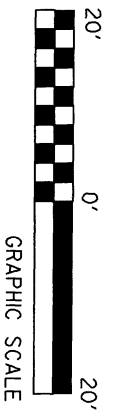
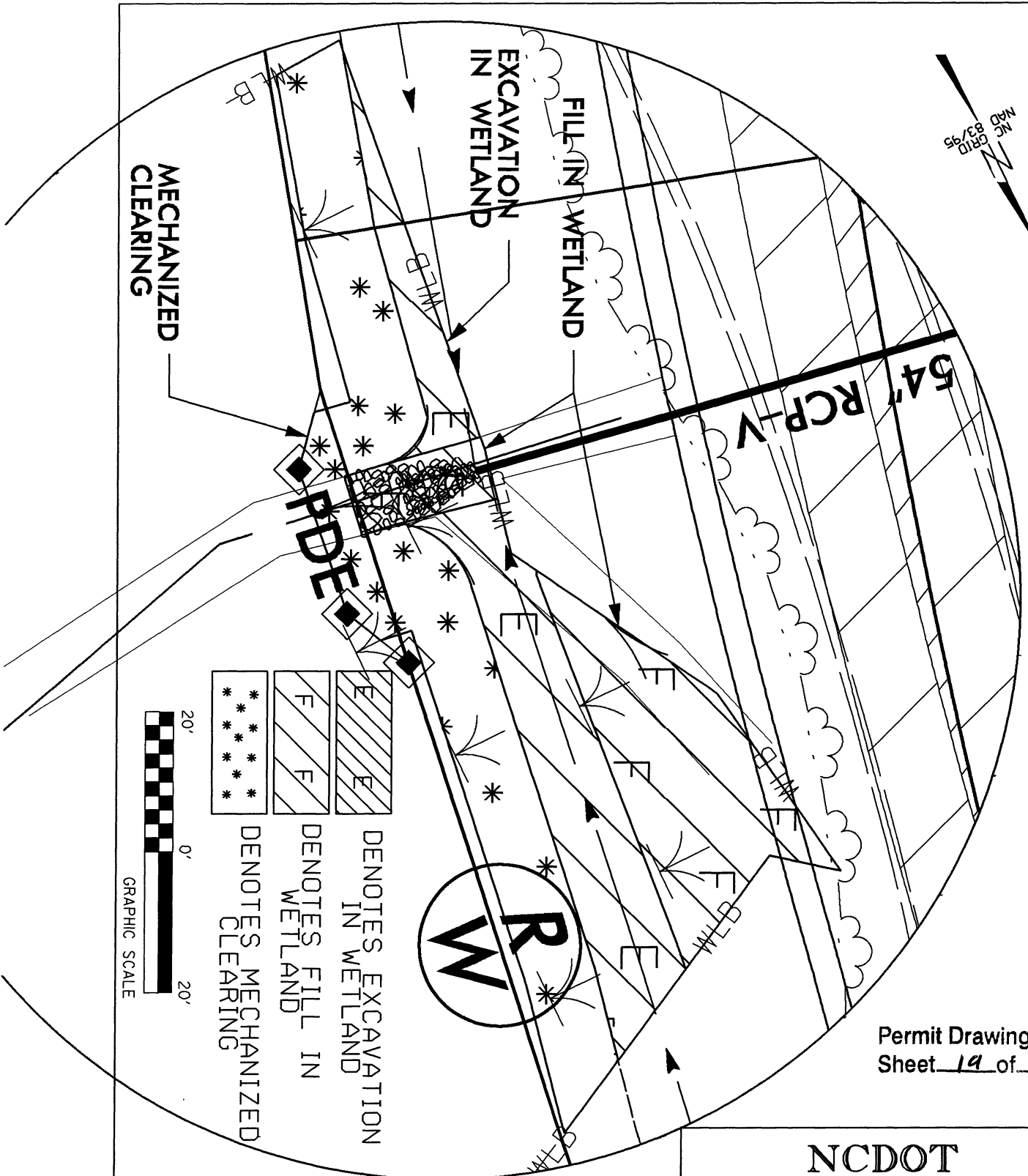


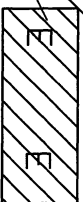
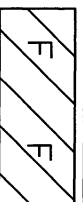

DENOTES EXCAVATION IN WETLAND
 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

Permit Drawing
 Sheet 18 of 29



NCDOT
 DIVISION OF HIGHWAYS
 BRUNSWICK COUNTY
 PROJECT: 35501.1.1 (R-3432)
 SR 1163 (OLD GEORGETOWN RD.
 EXTENSION) FROM SR 1184 (OCEAN
 ISLE BEACH RD.) TO NC 179
 SHEET OF 04/25/12



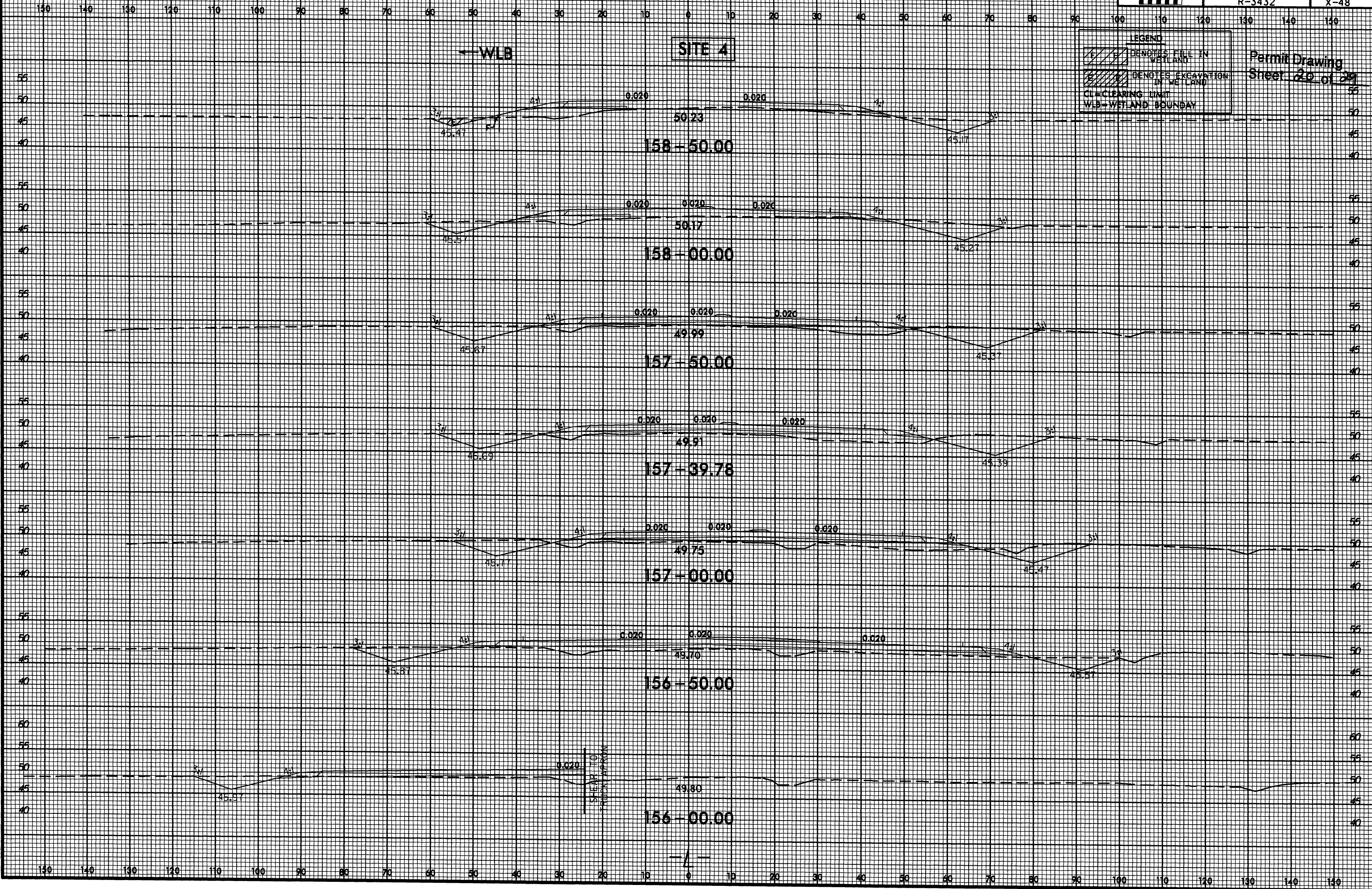
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING

Permit Drawing
Sheet 19 of 29

**SITE 4B
ENLARGEMENT**

NCDOT
DIVISION OF HIGHWAYS
 BRUNSWICK COUNTY
 PROJECT: 35501.1.1 (R-3432)
 SR 1163 (OLD GEORGETOWN RD.
 EXTENSION) FROM SR 1184 (OCEAN
 ISLE BEACH RD.) TO NC 179
 SHEET OF 05 / 03 / 12

8/23/99



Permit Drawing
Sheet 20 of 29

SYTIME
LUN
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
00

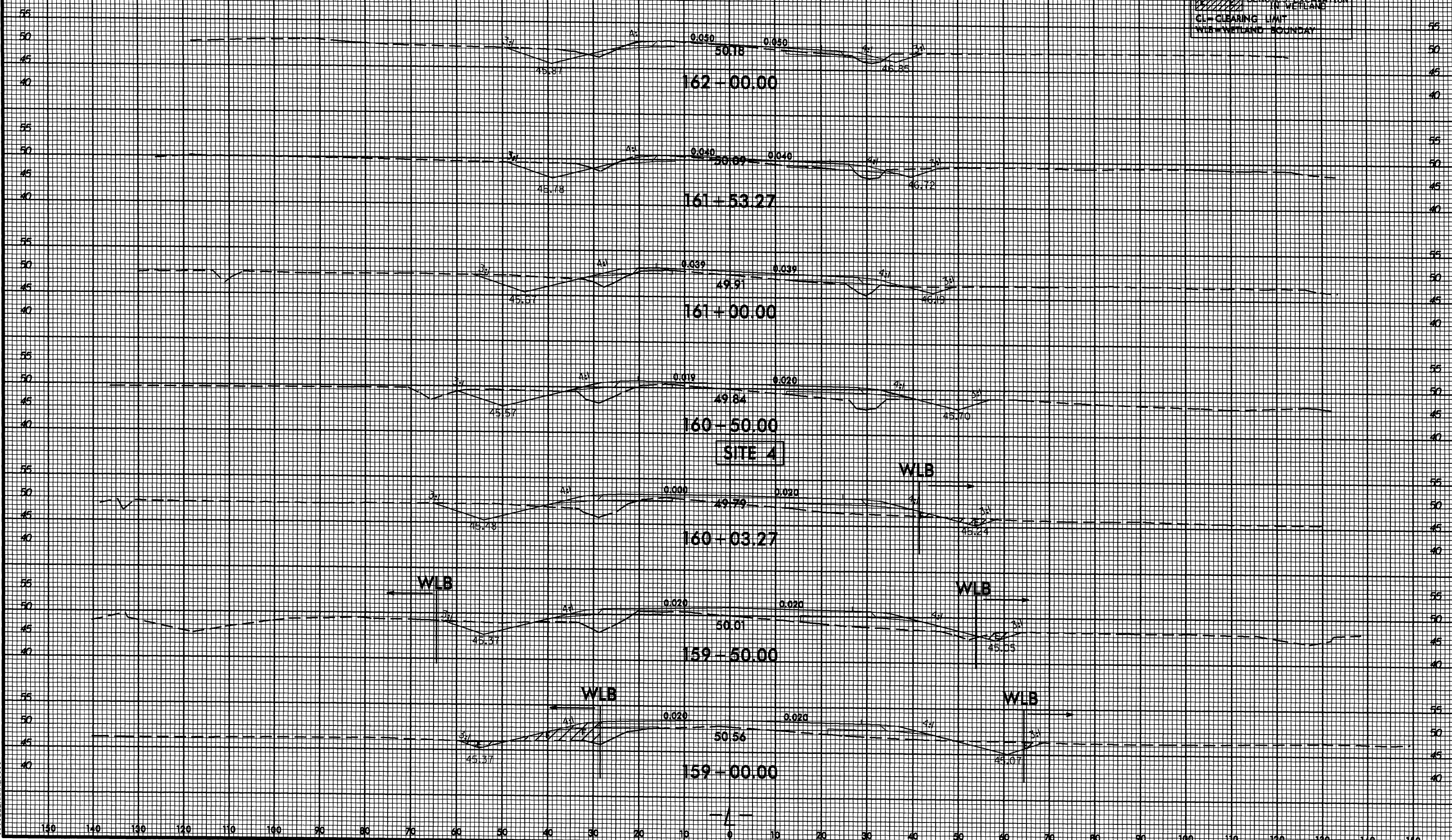
8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

LEGEND

- ▨ DITCHES FIL IN WETLAND
- ▧ DITCHES EXCAVATION IN WETLAND
- CL-CLEARING LIMIT
- - - WLB-WETLAND BOUNDARY

Permit Drawing
Sheet 21 of 29



VERTICAL SCALE
1" = 10'
HORIZONTAL SCALE
1" = 100'

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

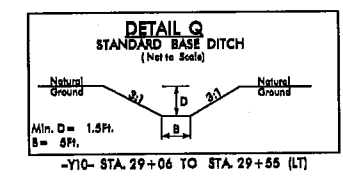
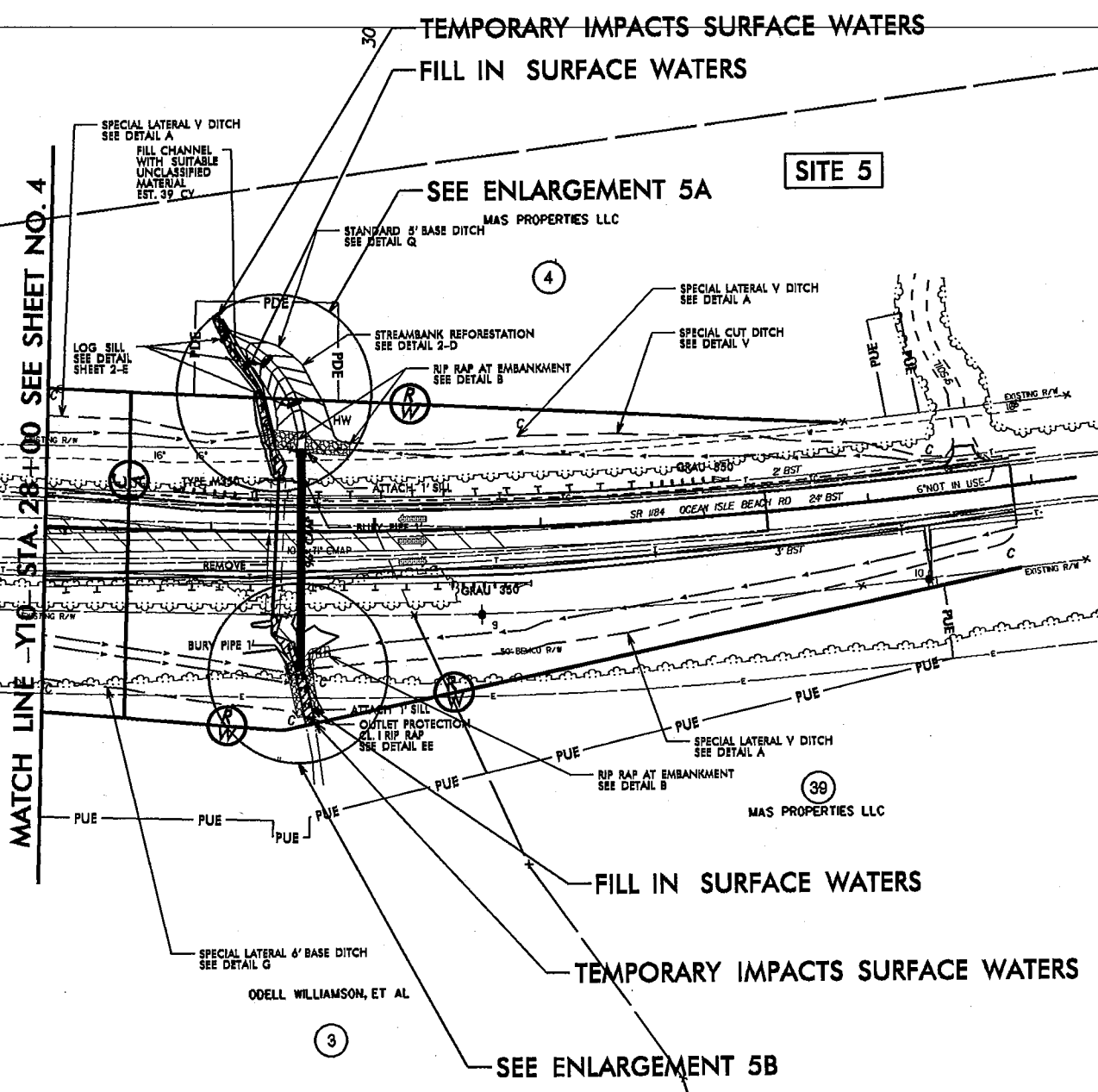
PROJECT REFERENCE NO. R-3432	SHEET NO. 15
RWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/NSRS 2007

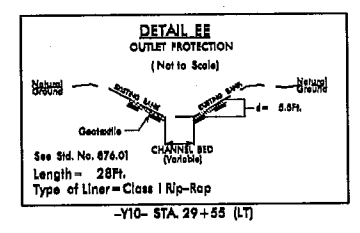
Permit Drawing
Sheet 29 of 29
Revised 1/31/13

-Y10-
PI Sta 31+16.11
 $\Delta = 7^{\circ} 51' 41.7" (LT)$
 $D = 1^{\circ} 47' 25.8"$
 $L = 439.07'$
 $T = 219.88'$
 $R = 3,200.00'$
 $SE = .03$
 $RO = 8'$

8/17/99

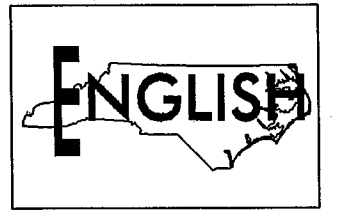


STREAMBANK REFORESTATION TO BE USED ON BANKS



LEGEND

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



FOR -Y10- PROFILE SEE SHEET 21A

MAS ET AL

REVISIONS
MAS PROPERTIES LLC

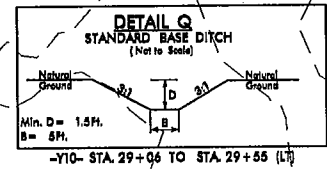
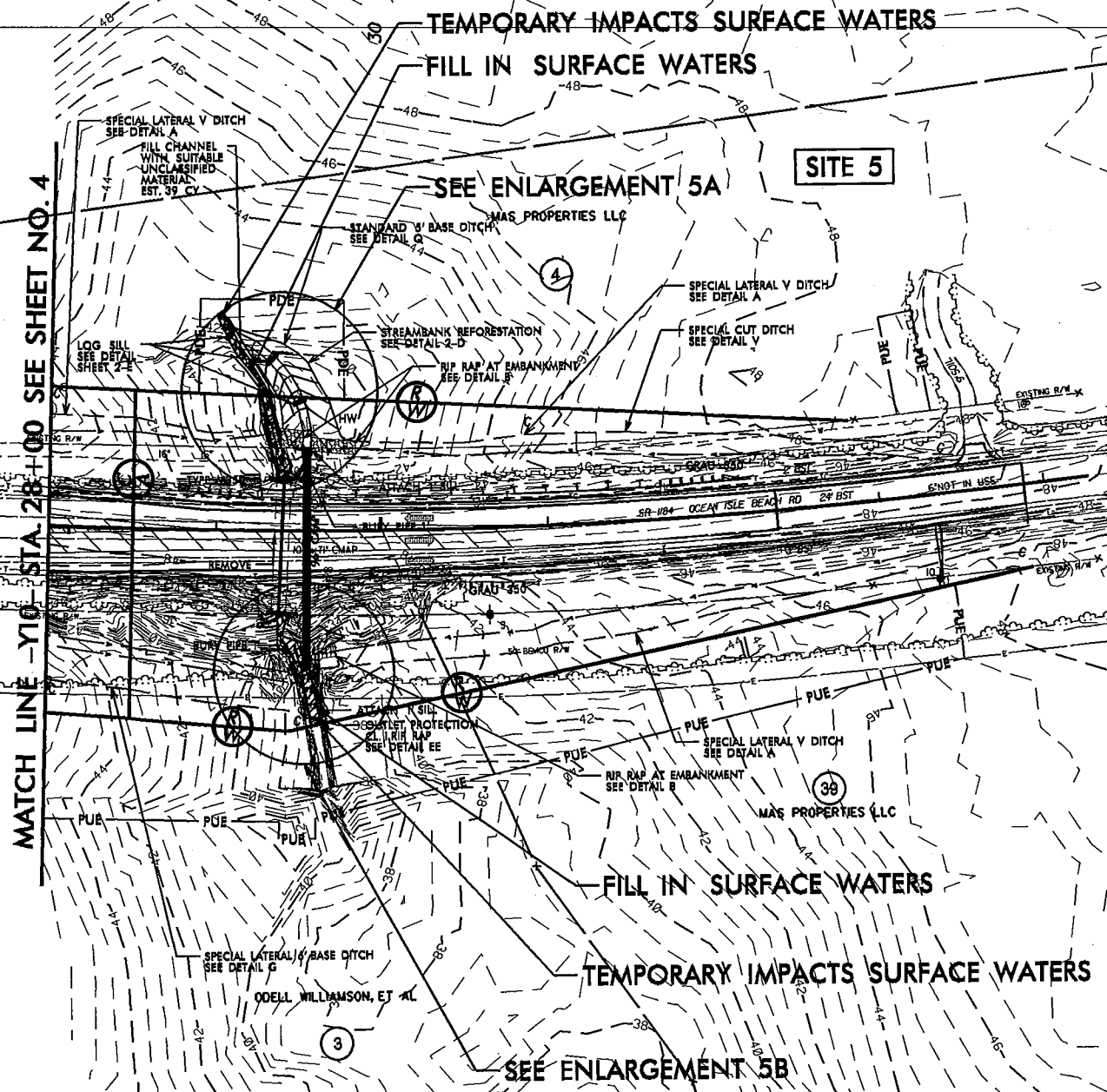
PROJECT REFERENCE NO. R-3432	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 23 of 29
REVISED 1/3/13

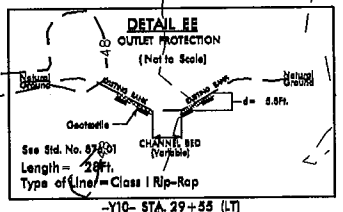
8/17/99

-Y10-
PI Sta. 31+16.11
 $\Delta = 7' 51" 41.7" (LT)$
 $D = 1' 47" 25.8"$
 $L = 439.07'$
 $R = 219.88'$
 $R = 3,200.00'$
 $SE = 193'$
 $RO = 81'$

NAD 83/NSRS 2007

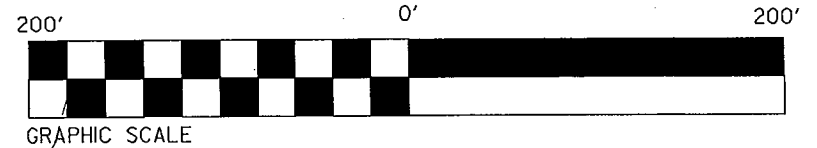


STREAMBANK REFORESTATION TO BE USED ON BANKS



LEGEND

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



FOR -Y10- PROFILE SEE SHEET 21A

JANSON ET AL

REVISIONS
MAS PROPERTIES LLC

NAD 83/NSRS 2007

TEMPORARY IMPACTS SURFACE WATERS

STREAMBANK REFORESTATION

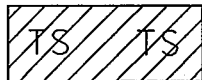
LOG SILL (TYP.)

HW

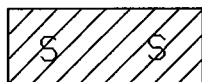
SILL (TYP.)

FILL IN SURFACE WATERS

SITE 5A ENLARGEMENT

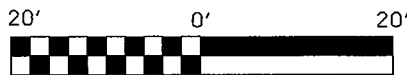


DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES IMPACTS IN SURFACE WATER

Permit Drawing
Sheet 24 of 29
Revised 11/3/13



GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

PROJECT: 35501.1.1 (R-3432)

SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

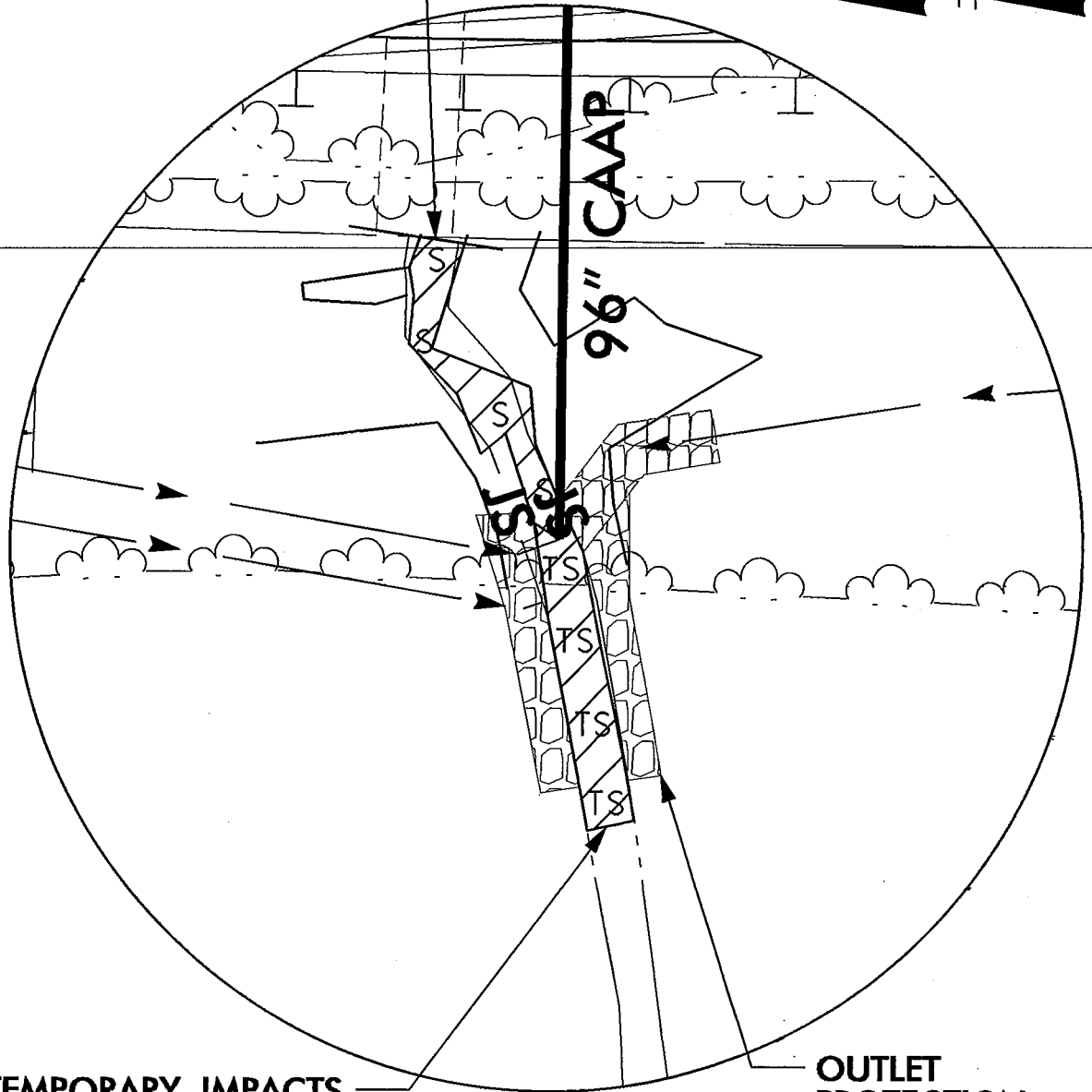
SHEET

OF

11 / 30 / 12

FILL IN SURFACE WATERS

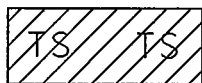
NAD 83/NSRS 2007



TEMPORARY IMPACTS
SURFACE WATERS

OUTLET
PROTECTION
CL. I RIP RAP

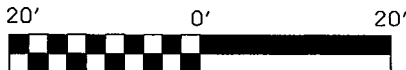
SITE 5B ENLARGEMENT



DENOTES TEMPORARY
IMPACTS IN SURFACE
WATER



DENOTES IMPACTS IN
SURFACE WATER



GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

PROJECT: 35501.1.1 (R-3432)

SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

SHEET

OF

11 / 30 / 12

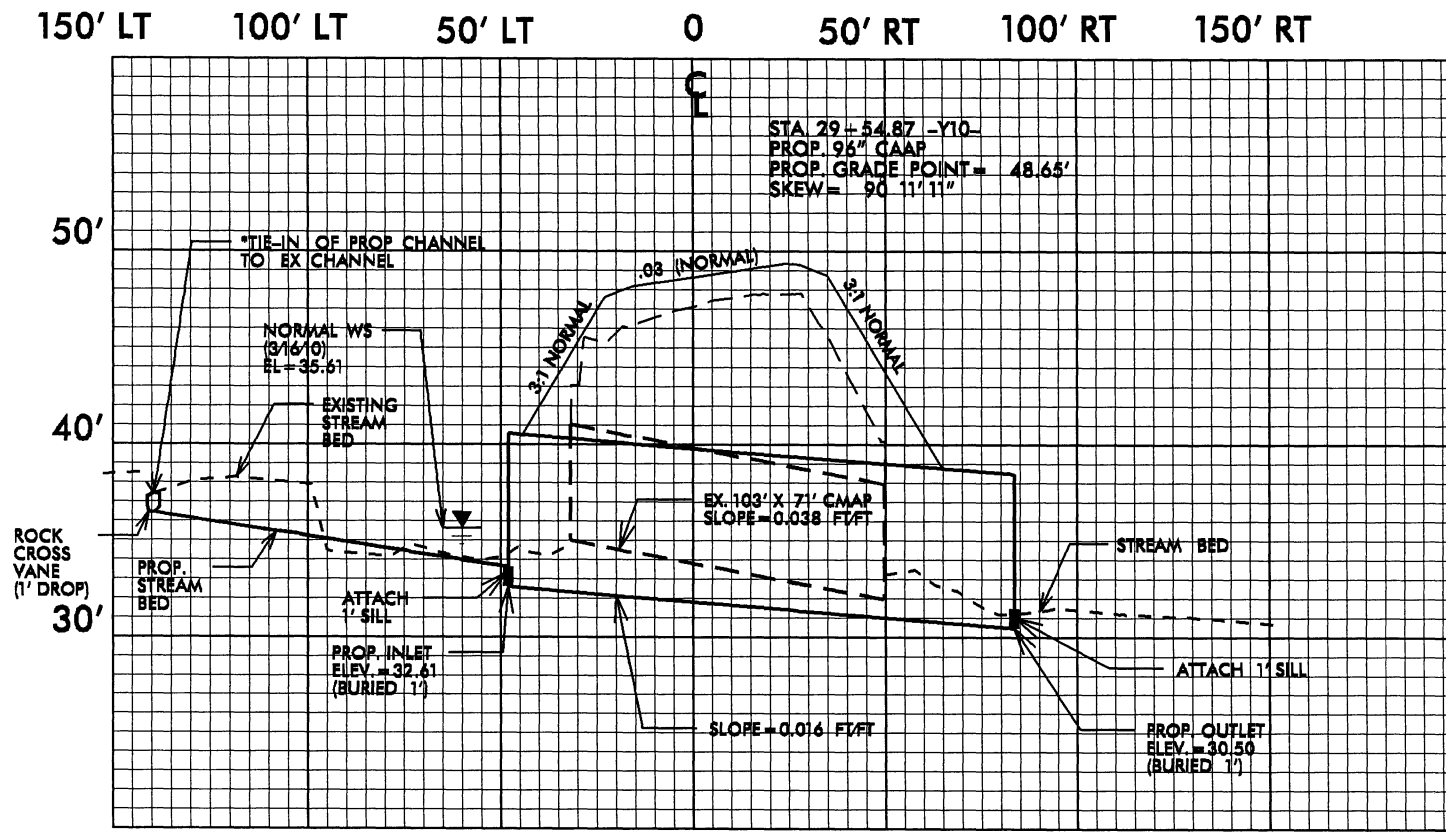
Permit Drawing
Sheet 25 of 27
Revised 11/3/13

SITE 5 JURISDICTIONAL STREAM PROFILE

NCDOT
DIVISION OF HIGHWAYS

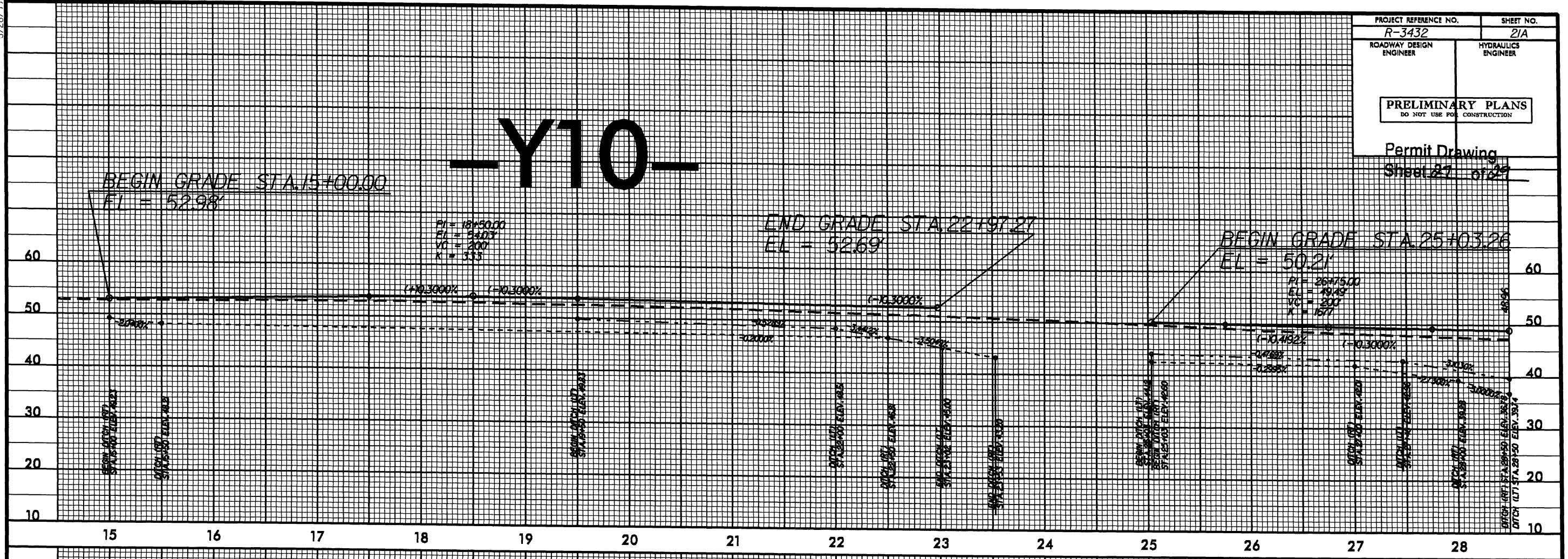
BRUNSWICK COUNTY
PROJECT: 35501.L1 (R-3432)
SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

SHEET OF 05 / 03 / 12



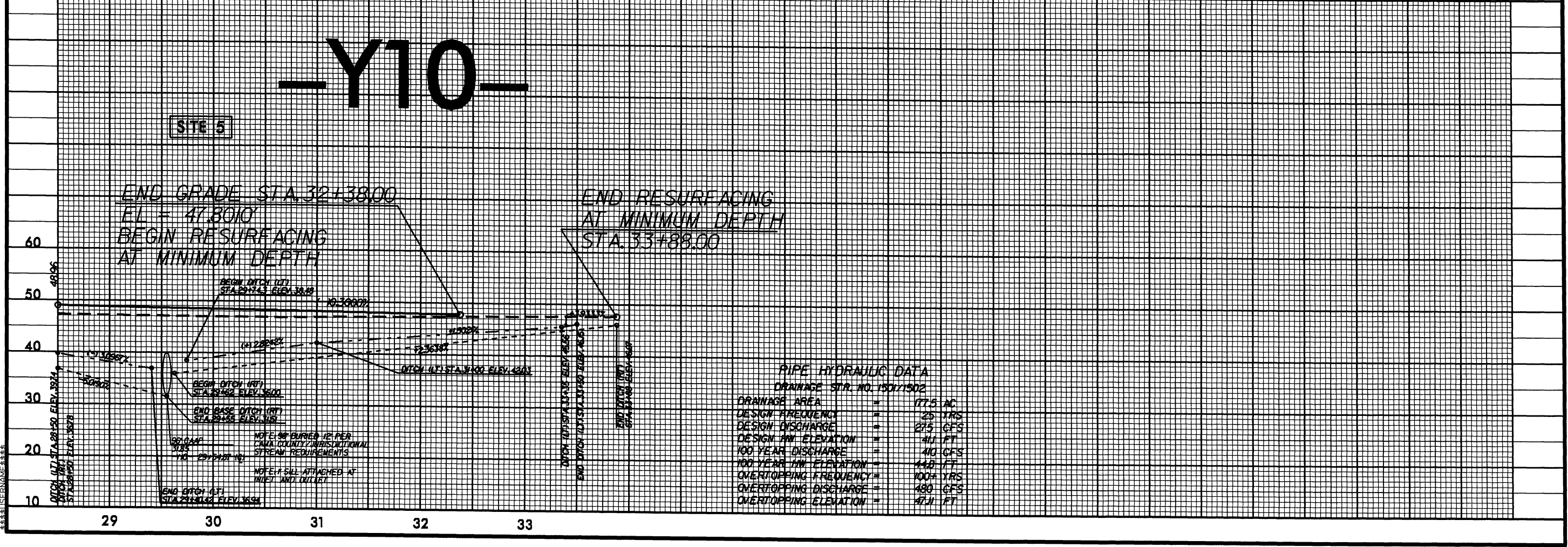
SCALE
HORIZ: 1" = 50'
VERT: 1" = 10'

-Y10-



-Y10-

SITE 5



PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 15011502

DRAINAGE AREA	=	177.5 AC
DESIGN FREQUENCY	=	25 YRS
DESIGN DISCHARGE	=	275 CFS
DESIGN HW ELEVATION	=	41.1 FT
100 YEAR DISCHARGE	=	410 CFS
100 YEAR HW ELEVATION	=	44.0 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	480 CFS
OVERTOPPING ELEVATION	=	47.1 FT

5/26/99
DATE TIME
DRAWN
CHECKED
DESIGNED
BY

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
3	Odell & Glenn N. Williamson	PO BOX 1602, Shallotte, NC 28459
4, 39	MAS Properties, LLC	131 Ocean Blvd. West, Holden Beach, NC 28462
5	Mills Land and Timber, LLC	131 Ocean Blvd. West, Holden Beach, NC 28462
8	Glen N., Jr. & Sarah S. Williamson	PO BOX 1602, Shallotte, NC 28459
9	Waterway Properties	1625 Woodview Dr., Ocean Isle Beach, NC 28469
10	Gloria Renee Bell	PO BOX 1984, Shallotte, NC 28459
11	John Henry & Mabeline Hill	1060 Hale Swamp Rd., SW, Shallotte, NC 28459
12	Charles D. Hill	PO BOX 374, Shallotte, NC 28459
13	Lindsey Clifton Thomas	PO BOX 181, Shallotte, NC 28459
14	Mary Lily Wigfall	4768 Oakview Dr., Southport, NC 28461
32	Gary D. & Rebecca H. Justice, et ux	3288 Channelside Dr., SW, Supply, NC 28462
33	Martha Joyner HRS, et al	812 N. Caswell Ave., Southport, NC 28461
34	Gary R. Shade, Trustee	PO BOX 1621, Mountain View, CA 94042
35	James R. & Caroline K. Beamon	PO BOX 1403, North Wilkesboro, NC 28659

Permit Drawing
Sheet 28 of 29

NCDOT
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
PROJECT: 35501.1.1 (R-3432)
SR 1163 (OLD GEORGETOWN RD.
EXTENSION) FROM SR 1184 (OCEAN
ISLE BEACH RD.) TO NC 179

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- 46+95/49+28	84" CAAP							0.03	<0.01			
2	-L- 98+85/99+39	30" RCP-III	0.03		<0.01	<0.01			0.05	<0.01	200	10	
3	-L- 100+97/105+53	84" CAAP	0.40		0.04	0.07							
4	-L- 158+32/160+27	54" RCP-V	0.06		0.06	0.07							
5A	-Y10- 29+37/29+63	96" CAAP							0.01	<0.01	97*	10	
5B	-Y10- 29+37/29+63	96" CAAP							<0.01	<0.01	39	33	
TOTALS:			0.49		0.10	0.14			0.10	0.01	239	53	

*NOTE: THIS PORTION WILL BE RELOCATED AND THEREFORE WILL NOT BE MITIGABLE.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
WBS - 35501.1.1 (R-3432)

Permit Drawing
Sheet 29 of 29
REVISED 1/3/13

09/08/99

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

T.I.P. NO.	SHEET NO.
R-3432	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**NEU PERMIT PLANS
BRUNSWICK COUNTY**

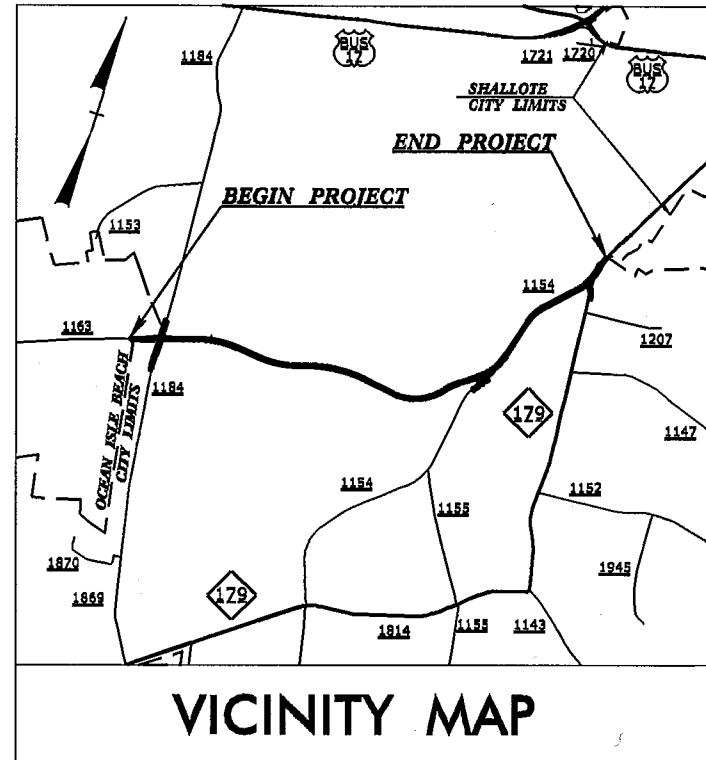
**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

Utility Permit Drawing
Sheet 1 of 23
Revised 2/27/13

**LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION)
FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179**

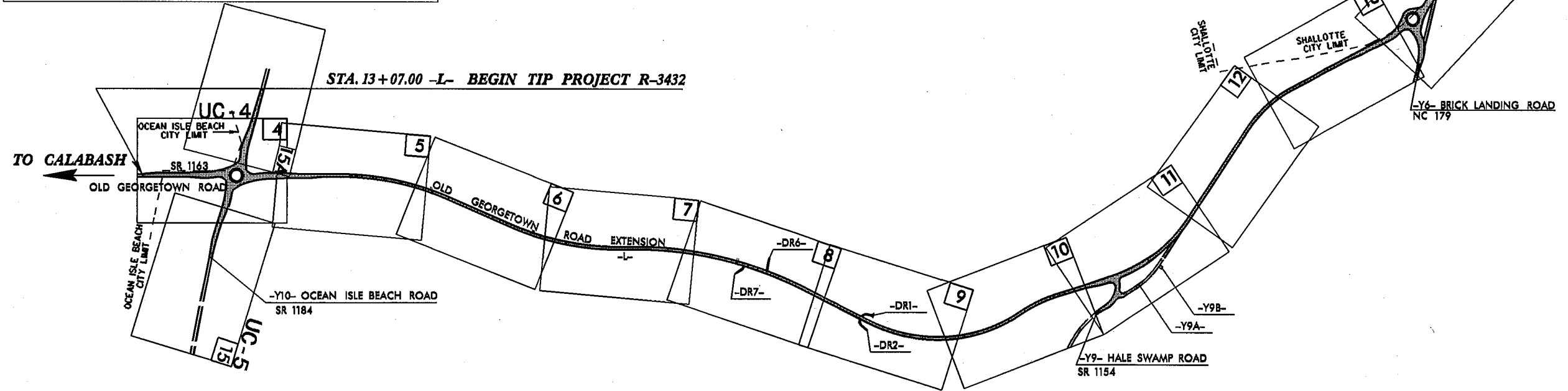
TYPE OF WORK: WATER LINES

TIP PROJECT: R-3432



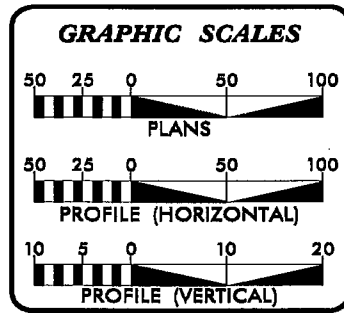
VICINITY MAP

STA. 164+00.00 -L- END TIP PROJECT R-3432



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF OCEAN ISLE BEACH AND SHALLOTTE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

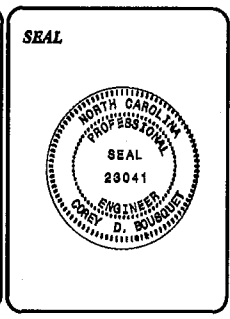
**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3D	DETAILS
UC-4 THRU UC-6	UTILITY CONSTRUCTION SHEETS
UC-7 THUR UC-17	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) 12" AND 16" WATER LINES- BRUNSWICK COUNTY



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1501 MAIL SERVICES CENTER
RALEIGH NC 27689-1501
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariko Hafeez UTILITIES PROJECT DESIGNER

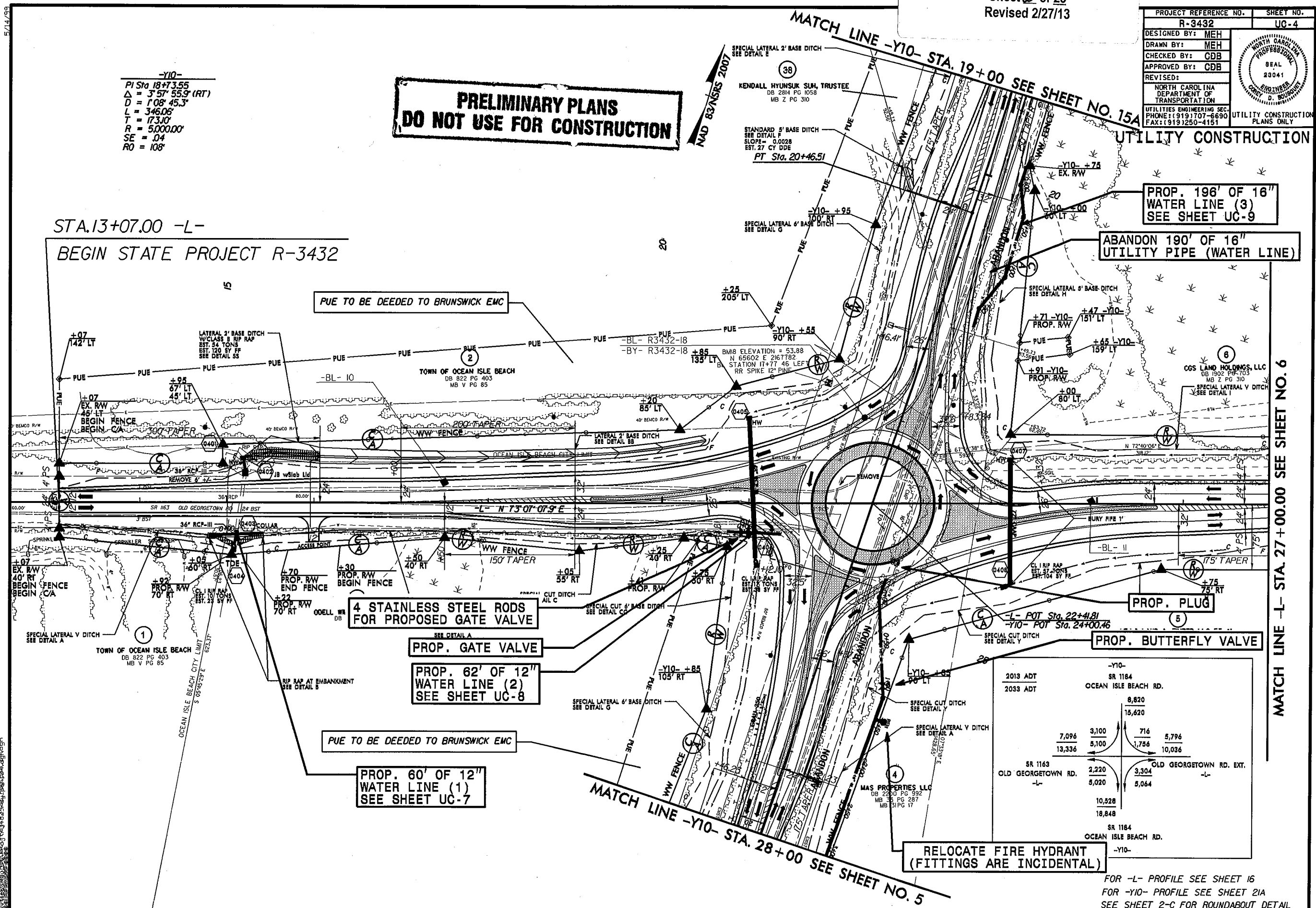
27-FEB-2013 17:22
R:\Utilities\Ardy_Ut_Proj\R-3432_Ut_Title_UC1_psh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-4
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

-Y10-
 PI Sta 18+73.55
 $\Delta = 3^{\circ} 57' 55.9''$ (RT)
 $D = 1^{\circ} 08' 45.3''$
 $L = 346.06'$
 $T = 173.01'$
 $R = 5,000.00'$
 $SE = .04$
 $RO = 108'$

**PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION**

STA.13+07.00 -L-
 BEGIN STATE PROJECT R-3432



PROP. 196' OF 16" WATER LINE (3) SEE SHEET UC-9

ABANDON 190' OF 16" UTILITY PIPE (WATER LINE)

4 STAINLESS STEEL RODS FOR PROPOSED GATE VALVE

PROP. GATE VALVE

PROP. 62' OF 12" WATER LINE (2) SEE SHEET UC-8

PROP. 60' OF 12" WATER LINE (1) SEE SHEET UC-7


RELOCATE FIRE HYDRANT (FITTINGS ARE INCIDENTAL)

-Y10-		SR 1164		OCEAN ISLE BEACH RD.	
2013 ADT	2033 ADT	8,820	15,620	716	5,796
		13,336	5,100	1,786	10,036
SR 1163	SR 1164	2,220	3,304	5,020	5,064
OLD GEORGETOWN RD.	-L-	10,528	18,848		
				SR 1164	OCEAN ISLE BEACH RD.
				-Y10-	

MATCH LINE -L- STA. 27+00.00 SEE SHEET NO. 6

MATCH LINE -Y10- STA. 28+00 SEE SHEET NO. 5

FOR -L- PROFILE SEE SHEET 16
 FOR -Y10- PROFILE SEE SHEET 21A
 SEE SHEET 2-C FOR ROUNDABOUT DETAIL

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-5
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-8690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

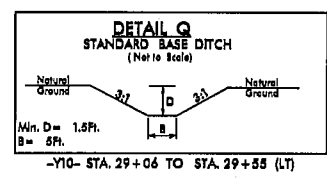
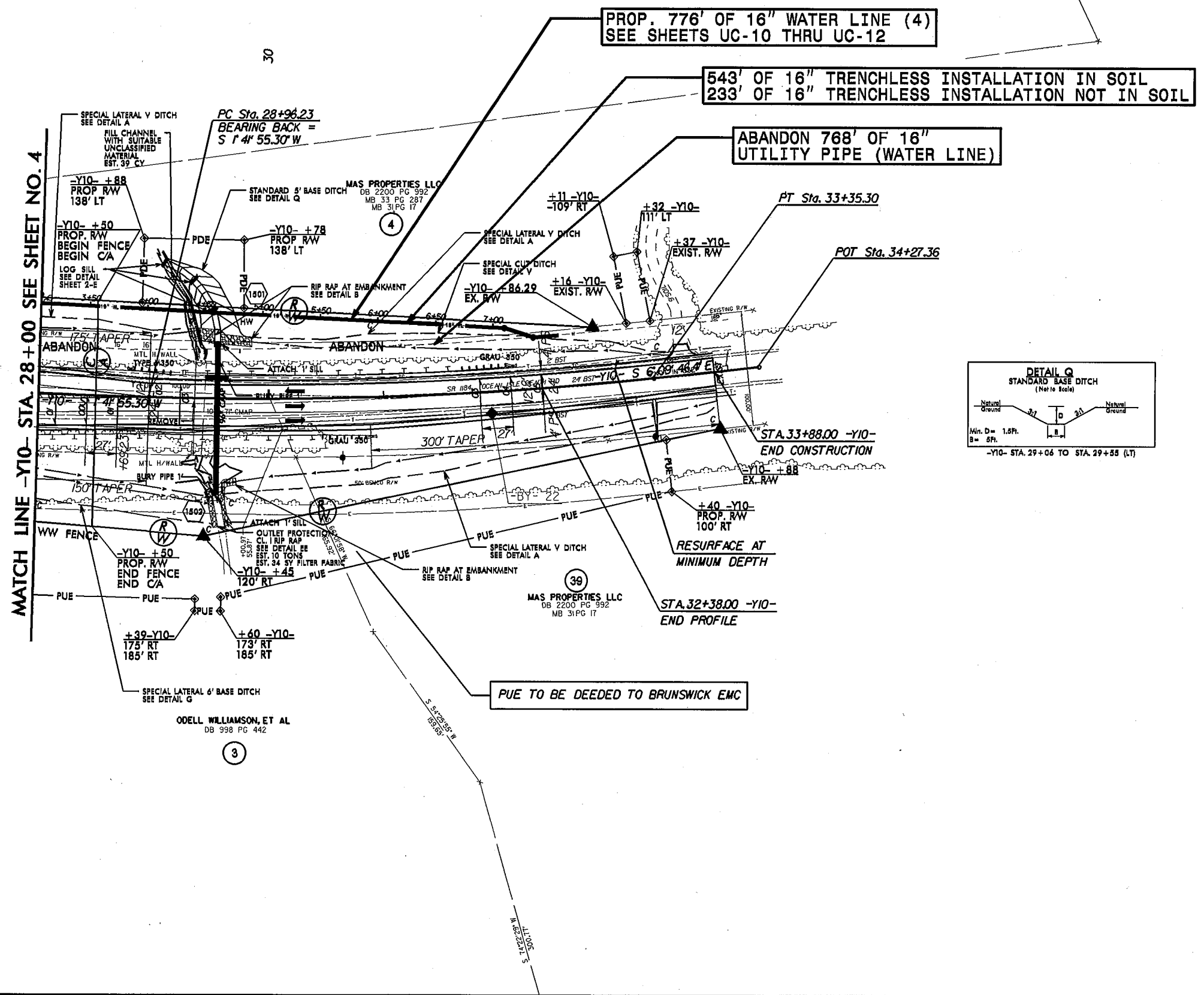
NAD 83/NSRS 2007

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

-Y10-
 PI Sta 31+16.11
 $\Delta = 7' 5" 41.7' (LT)$
 $D = 1' 47' 25.8'$
 $L = 439.07'$
 $T = 219.88'$
 $R = 3,200.00'$
 $SE = 0.3$
 $RO = 8'$

TEL-7

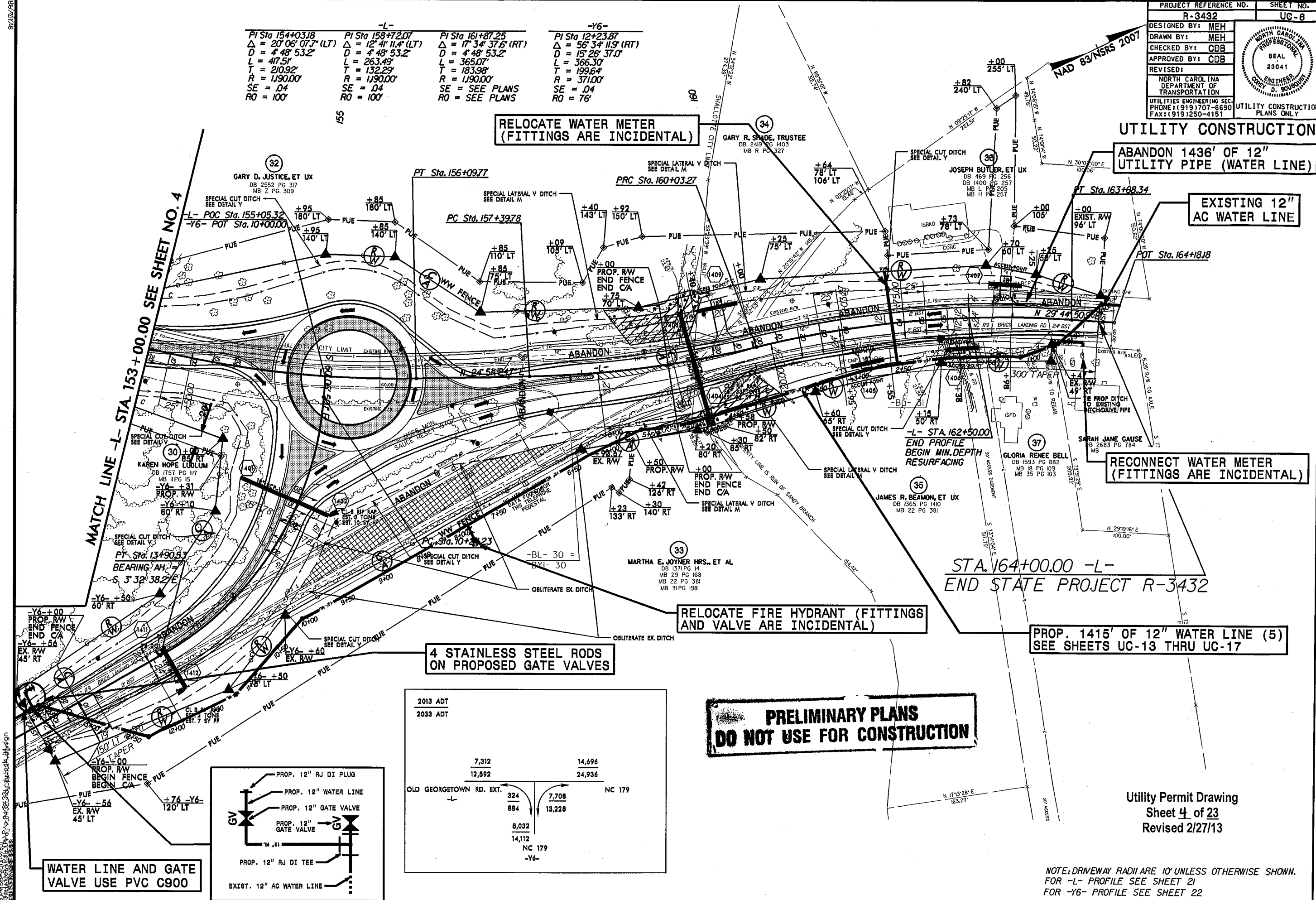
Utility Permit Drawing
 Sheet 3 of 23
 Revised 2/27/13



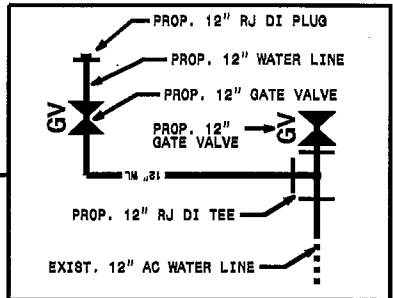
27-FEB-2013 17:01
 C:\Users\me\Documents\Projects\3432-rdy-psh-15.dgn

FOR -Y10- PROFILE SEE SHEET 21A

-L-		-Y6-	
PI Sta 154+03.18	PI Sta 158+72.07	PI Sta 161+87.25	PI Sta 12+23.87
$\Delta = 20' 06' 07.7''$ (LT)	$\Delta = 12' 4' 11.4''$ (LT)	$\Delta = 17' 3' 37.6''$ (RT)	$\Delta = 56' 3' 11.9''$ (RT)
D = 4' 48' 53.2"	D = 4' 48' 53.2"	D = 4' 48' 53.2"	D = 15' 26' 37.0"
L = 47.5'	L = 263.49'	L = 365.07'	L = 366.30'
T = 210.92'	T = 132.29'	T = 183.98'	T = 199.64'
R = 1190.00'	R = 1190.00'	R = 1190.00'	R = 371.00'
SE = .04	SE = .04	SE = SEE PLANS	SE = .04
RO = 100'	RO = 100'	RO = SEE PLANS	RO = 76'



WATER LINE AND GATE VALVE USE PVC C900



2013 ADT	2033 ADT
7,312	14,696
12,592	24,936

OLD GEORGETOWN RD. EXT. -L- NC 179

324	7,708
884	13,228
8,032	
14,112	
NC 179	
-Y6-	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**


PROP. 1415' OF 12" WATER LINE (5)
SEE SHEETS UC-13 THRU UC-17

Utility Permit Drawing
Sheet 4 of 23
Revised 2/27/13

NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.
FOR -L- PROFILE SEE SHEET 21
FOR -Y6- PROFILE SEE SHEET 22
SEE SHEET 2-D FOR ROUNDABOUT DETAIL

5/14/99

70

PROJECT REFERENCE NO.	R-3432	SHEET NO.	UC-7
DESIGNED BY:	MEH		
DRAWN BY:	MEH		
CHECKED BY:	CDB		
APPROVED BY:	CDB		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
			UTILITY CONSTRUCTION PLANS ONLY

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 5 of 23
Revised 2/27/13

60

60

50

50

40

40

30

30

1-20' SECTION OF RESTRAINED DI PIPE CONNECTING TO EXIST. 12" WL

STA. 0+00 TO 0+20
OPEN CUT RJ DI PIPE

BEGIN 12" WATER LINE STA. 0+00
CONNECT TO EXIST. WATER LINE
USING NECESSARY FITTINGS
SEE THRUST COLLAR DETAIL UC-3A

PROP. GROUND
PROP. DRAINAGE
STA. 0+10.06

EXIST. GROUND

END 12" WATER LINE STA. 0+20
CONNECT TO EXIST. WATER LINE
USING NECESSARY FITTINGS
SEE THRUST COLLAR DETAIL UC-3A

1-20' SECTION OF RESTRAINED DI PIPE
CONNECTING TO EXIST. 12" WL

PROP. 1-12" - 45 RJ DI BEND
STA. 0+17.50, VERTICAL

PROP. 1-12" - 45 RJ DI BEND
STA. 0+13.72, VERTICAL

PROP. 1-12" - 45 RJ DI BEND
STA. 0+6.09, VERTICAL

PROP. 1-12" - 45 RJ DI BEND
STA. 0+02.50, VERTICAL

PROP. 12" RJ
DI WATER LINE


12" Water Line (1)

0

0+20

27-FEB-2013 16:56
R:\Utilities\Ndu\Jct\Proj\WL 1A4.dgn

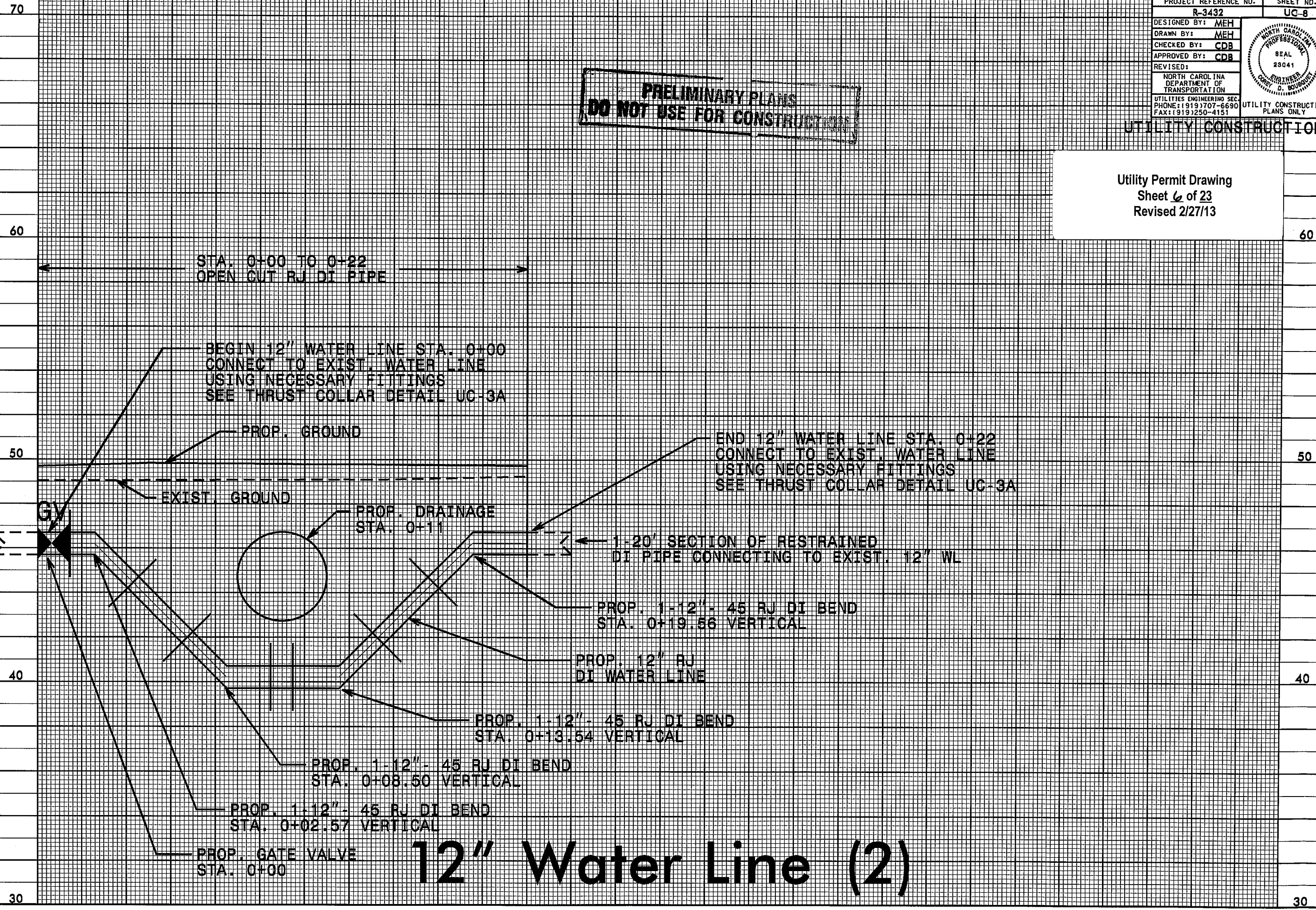
5/14/99
27-FEB-2013 16:56
R:\Utilities\Ncd\Utility\Proj\WL_2A.dgn

PROJECT REFERENCE NO.	R-3432	SHEET NO.	UC-8
DESIGNED BY:	MEH		
DRAWN BY:	MEH		
CHECKED BY:	CDB		
APPROVED BY:	CDB		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

Utility Permit Drawing
Sheet 6 of 23
Revised 2/27/13

1-20' SECTION OF RESTRAINED
DI PIPE CONNECTING
TO EXIST. 12" WL

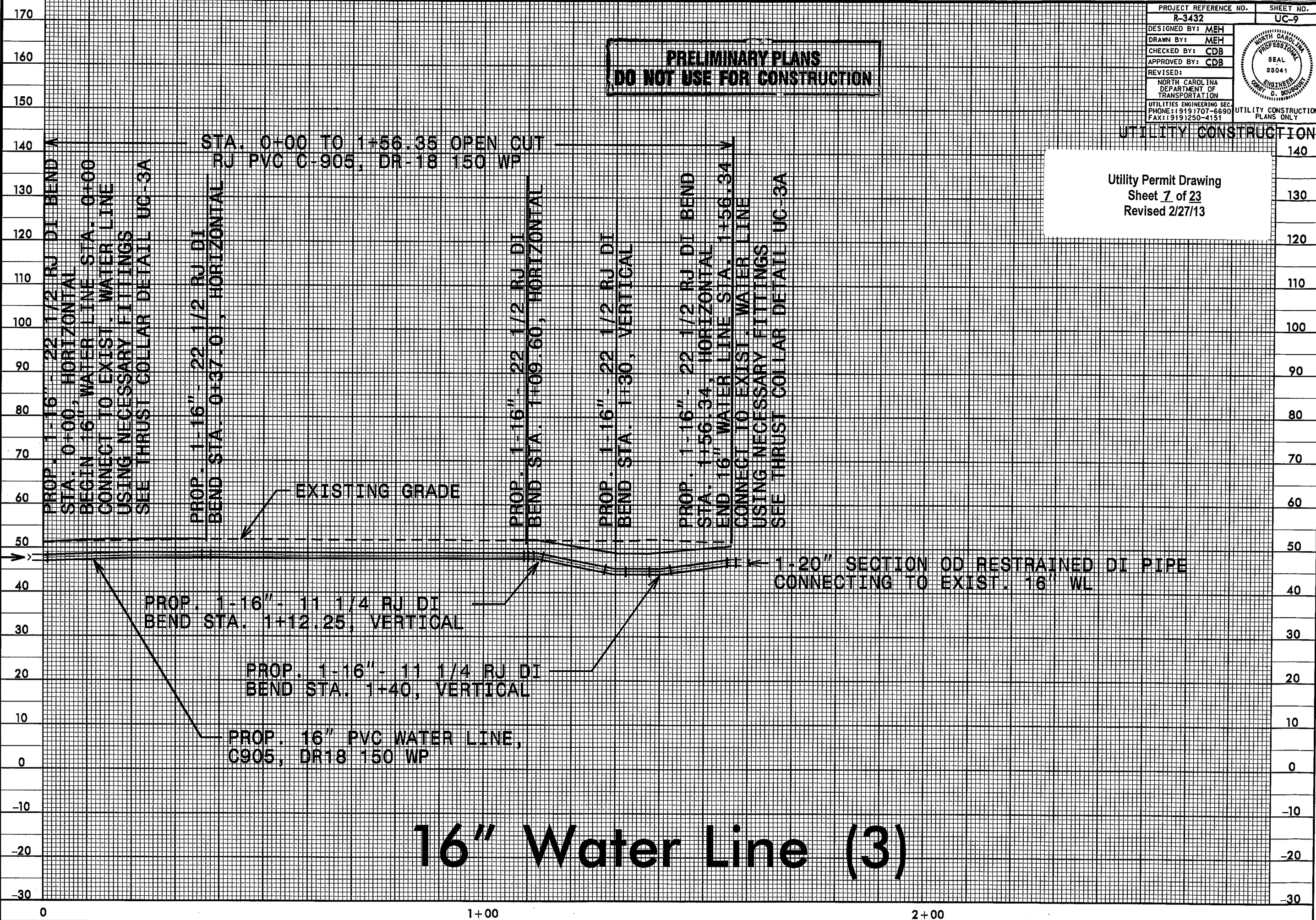


70
60
50
40
30
0

1-20" SECTION OF RESTRAINED DI PIPE
CONNECTING TO EXIST. 16" WL

27-FEB-2013 16:57 J:\P\o\WL 3.dgn
25-11-13 10:00 AM

5/14/98



**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

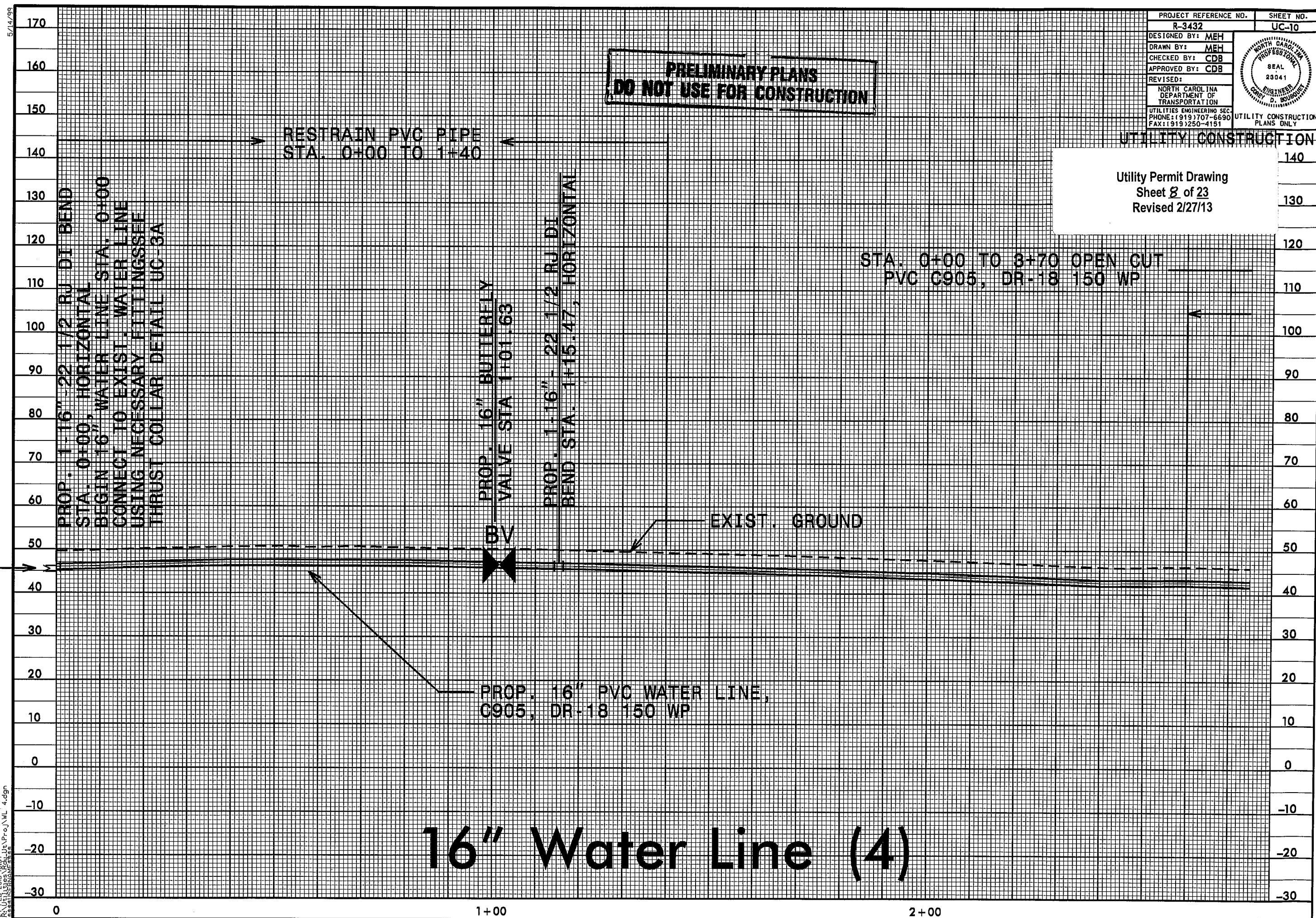
PROJECT REFERENCE NO. R-3432	SHEET NO. UC-9
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION
Utility Permit Drawing
Sheet 7 of 23
Revised 2/27/13

16" Water Line (3)

1-20' SECTION OF RESTRAINED DI PIPE
CONNECTING TO EXIST. 16" WL

27-FEB-2013 10:57 AM
R:\Projects\16" WL\4.dgn



PROP. 1-16" 22 1/2 RJ DI BEND
STA. 0+00, HORIZONTAL
BEGIN 16" WATER LINE STA. 0+00
CONNECT TO EXIST. WATER LINE
USING NECESSARY FITTINGS/SEF
THRUST COLLAR DETAIL UC-3A

PROP. 16" BUTTERFLY
VALVE STA 1+01.63

PROP. 1-16" 22 1/2 RJ DI
BEND STA. 1+15.47, HORIZONTAL

PROP. 16" PVC WATER LINE,
C905, DR-18 150 WP

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

RESTRAIN PVC PIPE
STA. 0+00 TO 1+40

STA. 0+00 TO 3+70 OPEN CUT
PVC C905, DR-18 150 WP

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 8 of 23
Revised 2/27/13

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-10
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISI	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

16" Water Line (4)

5/14/99

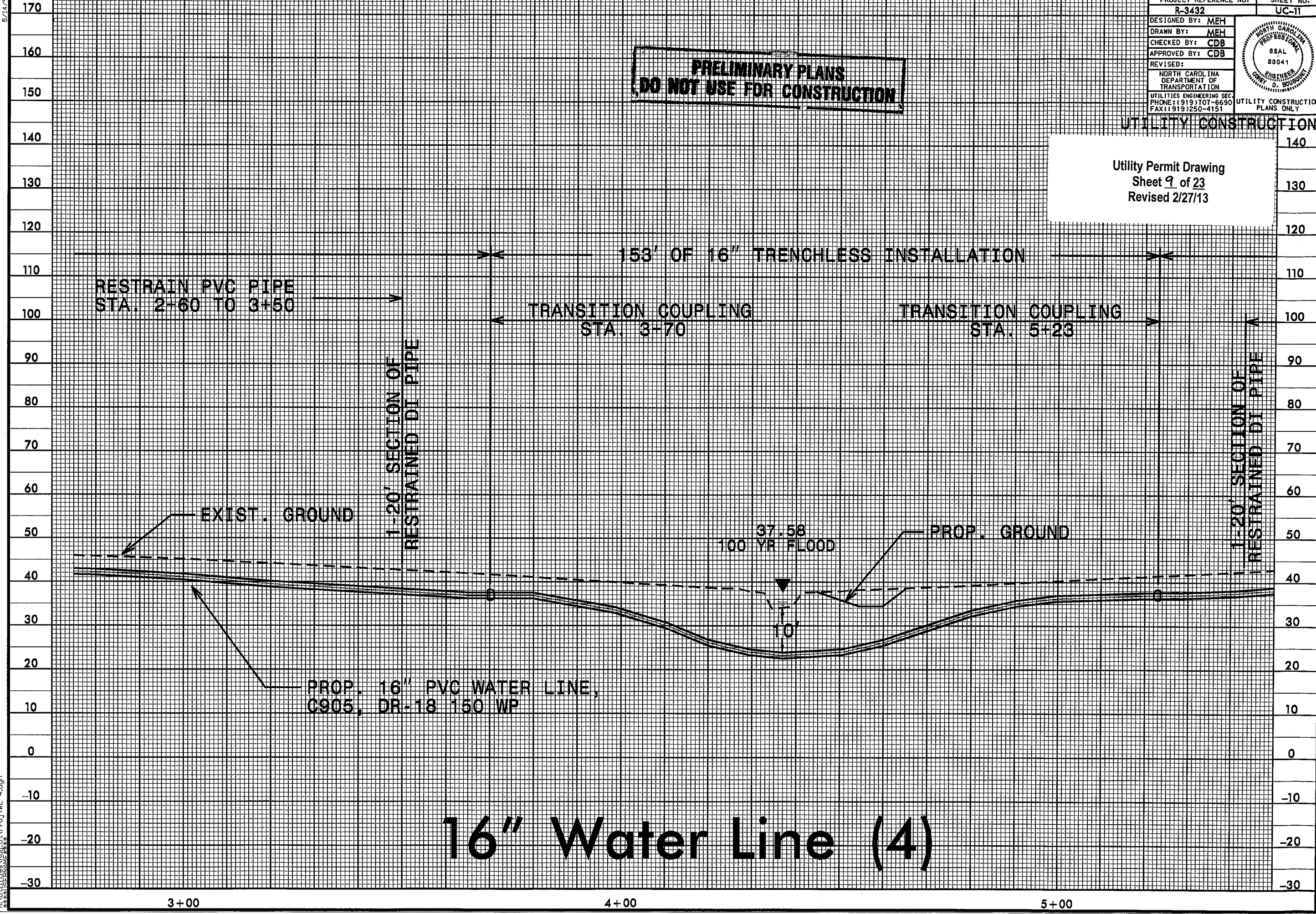
27-FEB-2013 16:58
R:\Utility\383\Projects\16" Water Line\16" WL 4.dgn

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-11
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 9 of 23
Revised 2/27/13



16" Water Line (4)

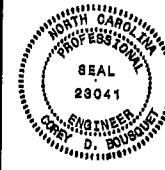
3+00

4+00

5+00

5/14/99

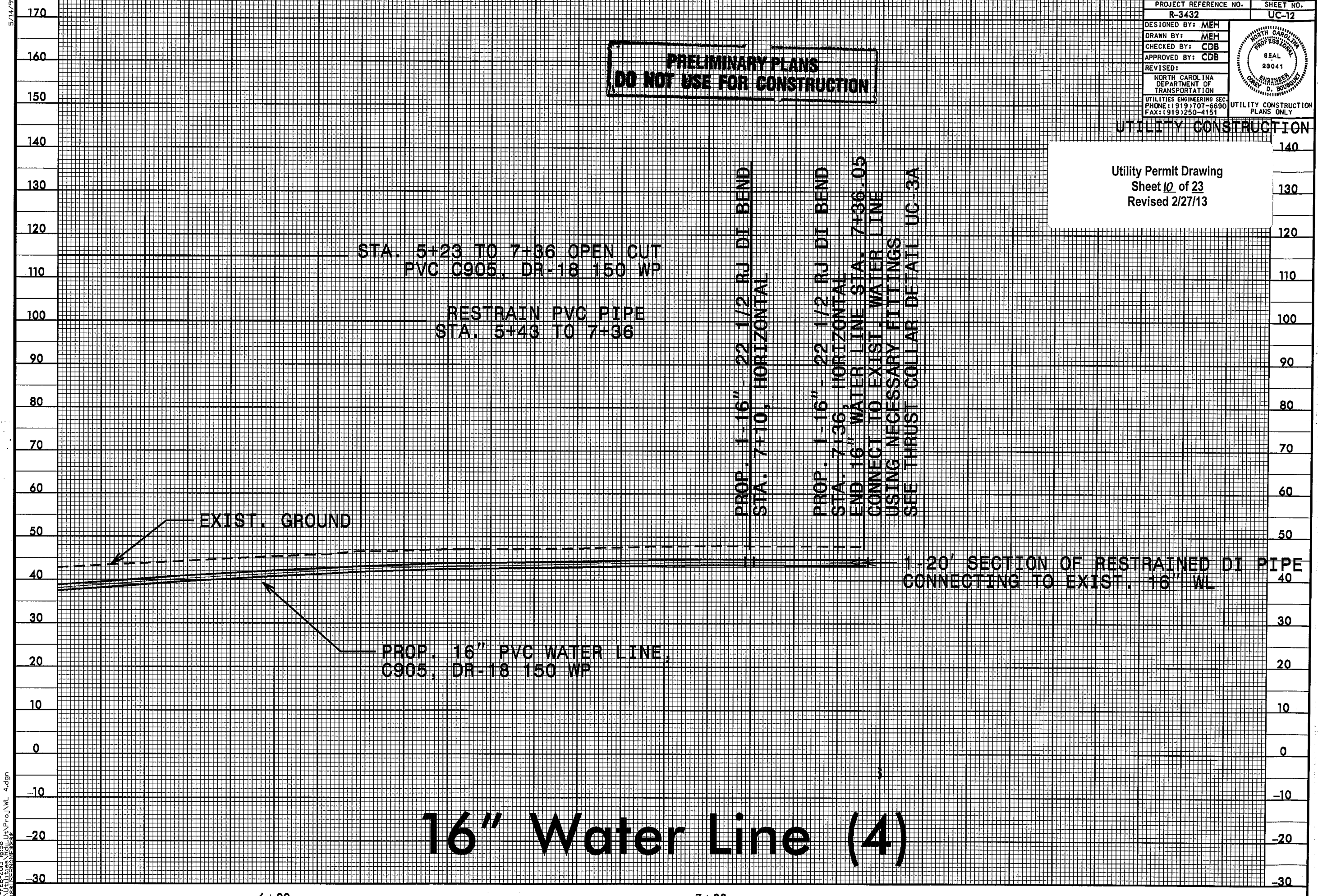
27-FEB-2013 16:58 US:\P\Proj\WL 4.dgn

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-12
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 10 of 23
Revised 2/27/13



STA. 5+23 TO 7+36 OPEN CUT
PVC C905, DR-18 150 WP

RESTRAIN PVC PIPE
STA. 5+43 TO 7+36

PROP. 1-16" - 22 1/2 RJ DI BEND
STA. 7+10, HORIZONTAL

PROP. 1-16" - 22 1/2 RJ DI BEND
STA. 7+36, HORIZONTAL
END 16" WATER LINE STA. 7+36.05
CONNECT TO EXIST. WATER LINE
USING NECESSARY FITTINGS
SEE THRUST COLLAR DETAIL UC-3A

1-20' SECTION OF RESTRAINED DI PIPE
CONNECTING TO EXIST. 16" WL

PROP. 16" PVC WATER LINE,
C905, DR-18 150 WP

16" Water Line (4)

6+00

7+00

5/14/99

27-FEB-2003 16:59 J:\NAP-Proj\NW 51.dgn

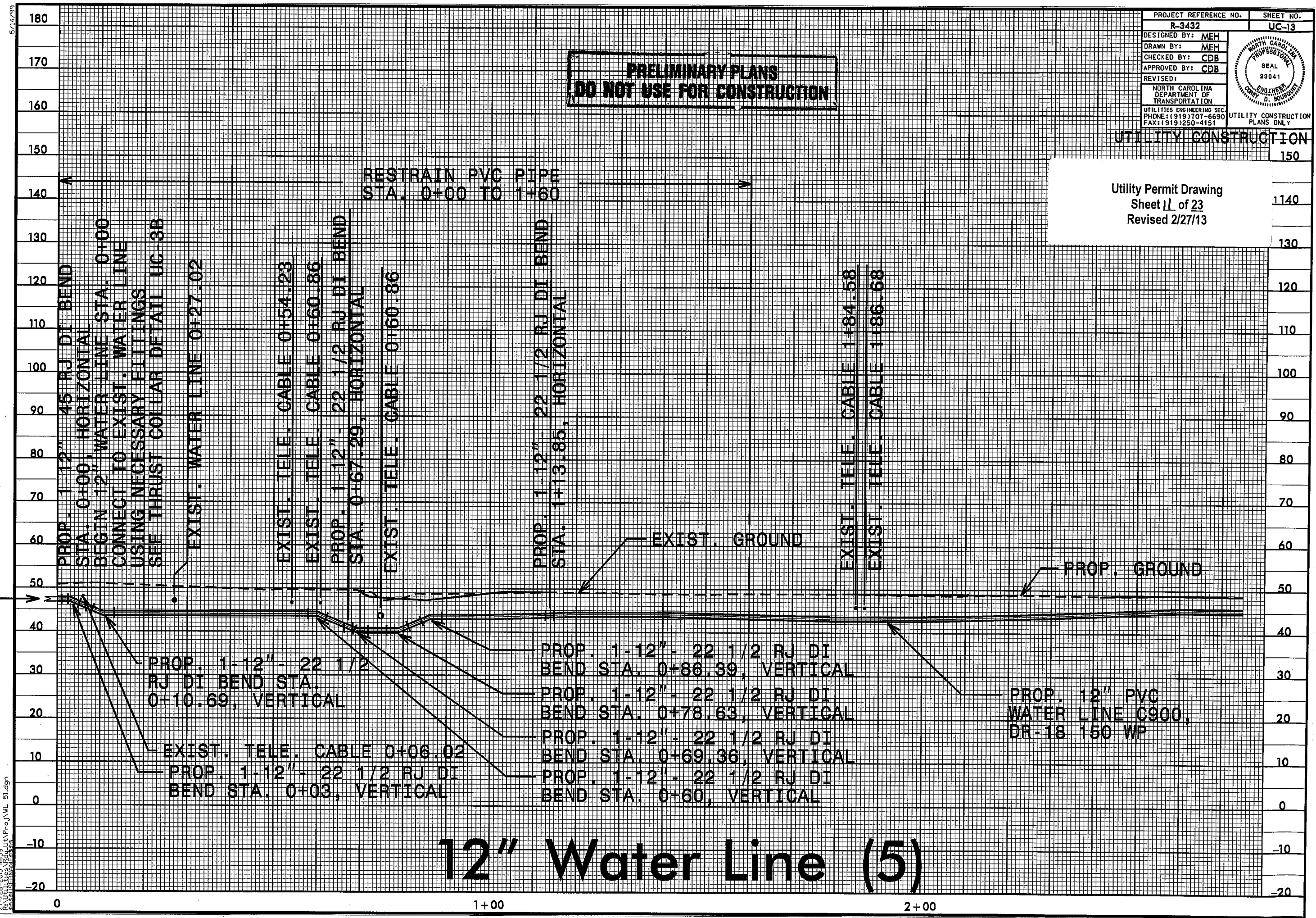
PROJECT REFERENCE NO. R-3432	SHEET NO. UC-13
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISER:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 11 of 23
Revised 2/27/13

EXISTING
AC 12" WL




12" Water Line (5)

5/14/99

27-FEB-2013 16:59 J:\A\Proj\WL 51.dgn

170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-14
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 12 of 23
Revised 2/27/13

RESTRAIN PVC PIPE
STA. 5+20 TO 6+00

EXIST. GROUND

PROP. GROUND

PROP. 12" PVC WATER LINE
C900, DR-18 150 WP

12" Water Line (5)

3+00

4+00

5+00


140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30

5/14/99

170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30

PROP. 1'-12" - 22' 1/2" R/L DI BEND
STA. 5+59.59, HORIZONTAL

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-15
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 13 of 23
Revised 2/27/13

EXIST. GROUND

PROP. 12" PVC WATER LINE
C900, DR-18 150 WP

12" Water Line (5)

6+00

7+00

8+00

27-FEB-2013 16:59 U:\P\Proj\WL 51.dgn

5/14/99

170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-16
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 14 of 23
Revised 2/27/13

PROP. 1-12" - 22 1/2' R.J. DI BEND
STA. 10+06.16, HORIZONTAL

EXIST. GROUND

PROP. 12" PVC WATER LINE
C900, DR-18 150 WP

12" Water Line (5)

9+00

10+00

11+00

27-FEB-2013 16:59 J:\P\Proj\NL 51.dgn

5/14/99
27-FEB-2013 17:00 usAP-Proj\WL 51.dgn

170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30


11+00

12+00

13+00

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

Utility Permit Drawing
Sheet 15 of 23
Revised 2/27/13

PROJECT REFERENCE NO. R-3432	SHEET NO. UC-17
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

RESTRAIN PVC PIPE
STA. 9+60 TO 13+65.07

UTILITY CONSTRUCTION

PROP. 1-12" - 22 1/2 RJ DI BEND
STA. 11+21.32, HORIZONTAL

PROP. 1-12" - 45 RJ DI BEND
STA. 12+32.77, HORIZONTAL

PROP. 1-12" - 22 1/2 RJ DI BEND
STA. 12+70.84, VERTICAL

EXIST. TELE. CABLE 13+01.59

EXIST. TELE. CONDUIT 13+12.15

PROP. 1-12" - 45 RJ DI BEND
STA. 13+65.07, HORIZONTAL

END 12" WATER LINE STA. 13+65.07 V
CONNECT TO EXIST. WATER LINE
USING NECESSARY FITTINGS

EXIST. GROUND

PROP. 12" PVC WATER LINE
C900, DR-18 150 WP

PROP. 1-12" - 22 1/2 RJ DI BEND
STA. 12+80.22, VERTICAL

EXIST. TELE. CABLE 13+07.21

EXIST. TELE. CABLE 13+61.45

PROP. 1-12" - 22 1/2 RJ DI BEND
STA. 13+60, VERTICAL

PROP. 1-12" - 22 1/2 RJ DI BEND
STA. 13+63.06, VERTICAL

EXISTING AC 12" WL

12" Water Line (5)

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

T.I.P. NO.	SHEET NO.
R-3432	UBO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UBO NEU PERMIT PLANS
BRUNSWICK COUNTY**

**PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**

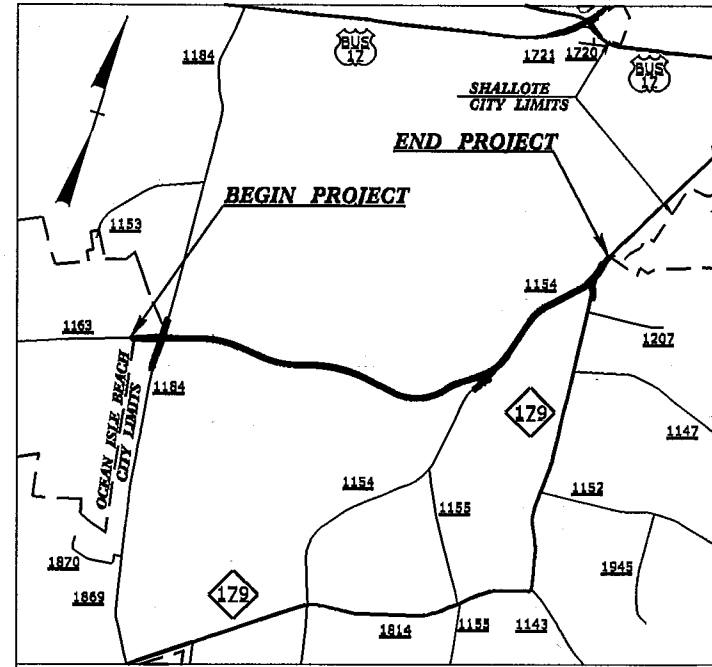
Utility Permit Drawing
Sheet 16 of 23
Revised 2/27/13

**LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION)
FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179**

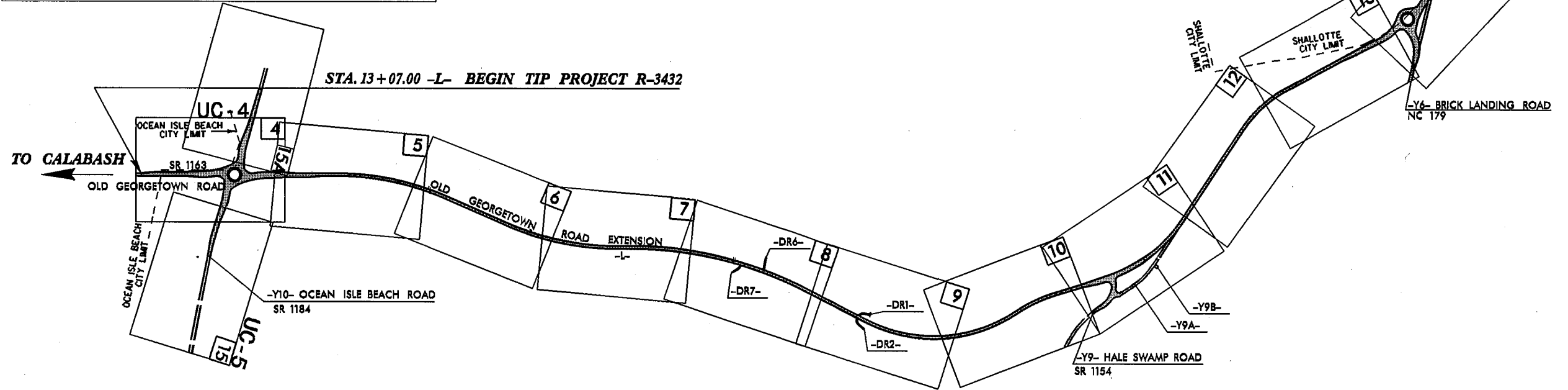
TYPE OF WORK: TELEPHONE OF CABLE LINES

STA. 164+00.00 -L- END TIP PROJECT R-3432

TIP PROJECT: R-3432

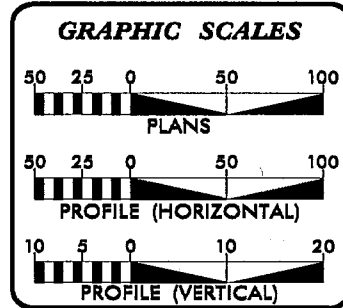


VICINITY MAP



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF OCEAN ISLE BEACH AND SHALLOTTE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

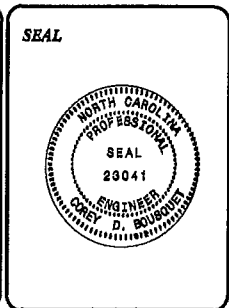
**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION**



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UBO-4 THRU UC-5	UTILITIES BY OTHERS SHEETS
UC-6 THRU UC-10	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) ATLANTIC TELEPHONE MEMBERSHIP CORPORATION
(1) TIME WARNER CABLE



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1591 MAIL SERVICES CENTER
RALEIGH NC 27695-1591
PHONE (919) 707-6690
FAX (919) 230-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariho Hafes UTILITIES PROJECT DESIGNER

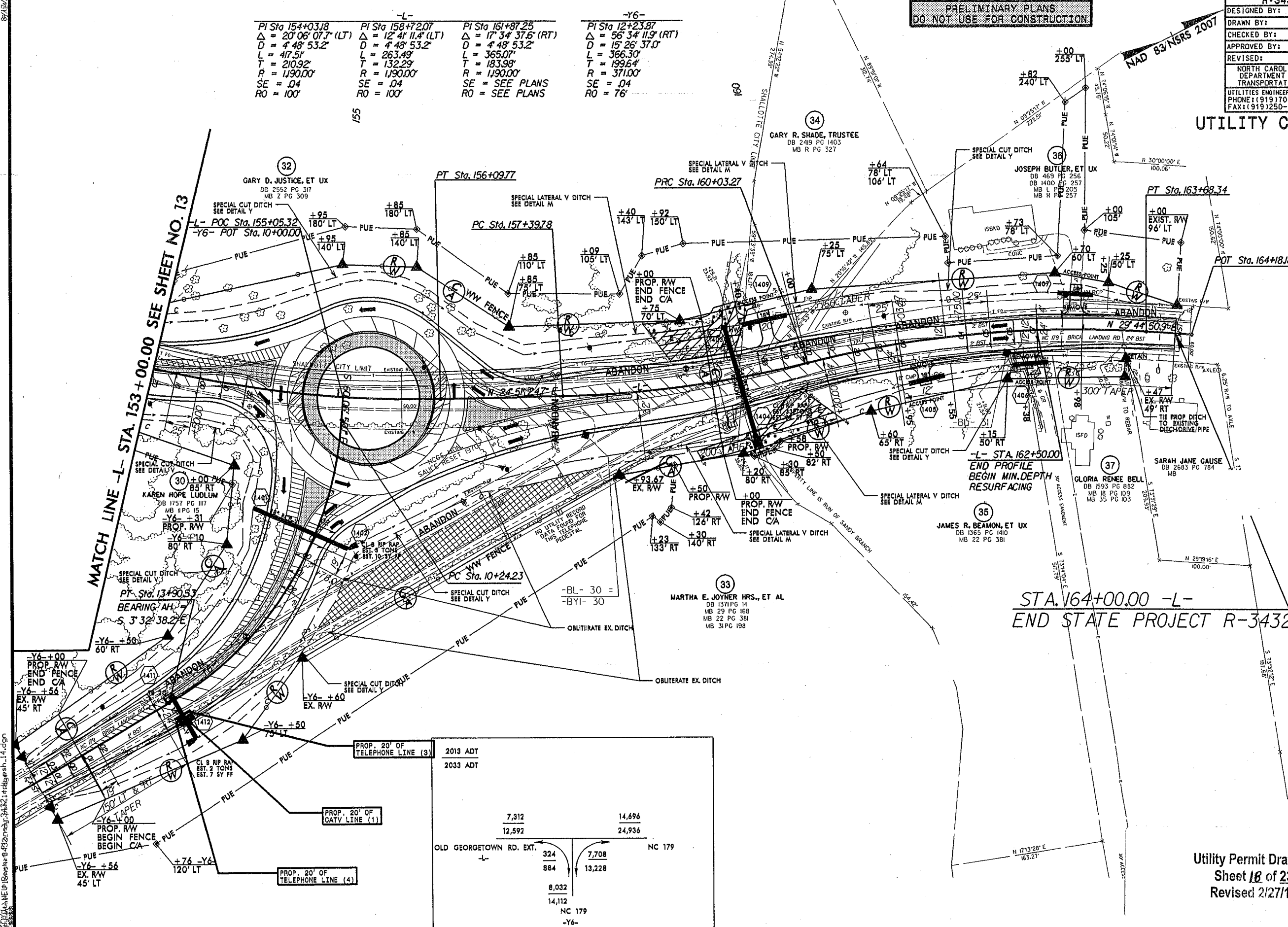
27-FEB-2013 17:16
R:\Utilities\Ready_Ut\Proj\R-3432_Ut_Title_UC1_psh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DESIGNED BY: MEH	5
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

-L-		-Y6-	
PI Sta 154+03.8	PI Sta 158+72.07	PI Sta 161+87.25	PI Sta 12+23.87
$\Delta = 20^{\circ}06'07.7"$ (LT)	$\Delta = 12^{\circ}48'11.4"$ (LT)	$\Delta = 17^{\circ}34'37.6"$ (RT)	$\Delta = 56^{\circ}34'11.9"$ (RT)
D = 4'48" 53.2"	D = 4'48" 53.2"	D = 4'48" 53.2"	D = 15'26" 37.0"
L = 417.51'	L = 263.07'	L = 365.07'	L = 366.30'
T = 210.92'	T = 132.29'	T = 183.98'	T = 199.64'
R = 1190.00'	R = 1190.00'	R = 1190.00'	R = 371.00'
SE = .04	SE = .04	SE = SEE PLANS	SE = .04
RO = 100'	RO = 100'	RO = SEE PLANS	RO = 76'



MATCH LINE -L- STA. 153+00.00 SEE SHEET NO. 13

STA. 164+00.00 -L-
END STATE PROJECT R-3432

2013 ADT	7,312	14,696
2033 ADT	12,592	24,936

324	7,708
884	13,228
8,032	
14,112	
NC 179	
-Y6-	

Utility Permit Drawing
Sheet 18 of 23
Revised 2/27/13

NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.
FOR -L- PROFILE SEE SHEET 21
FOR -Y6- PROFILE SEE SHEET 22
SEE SHEET 2-D FOR ROUNDABOUT DETAIL

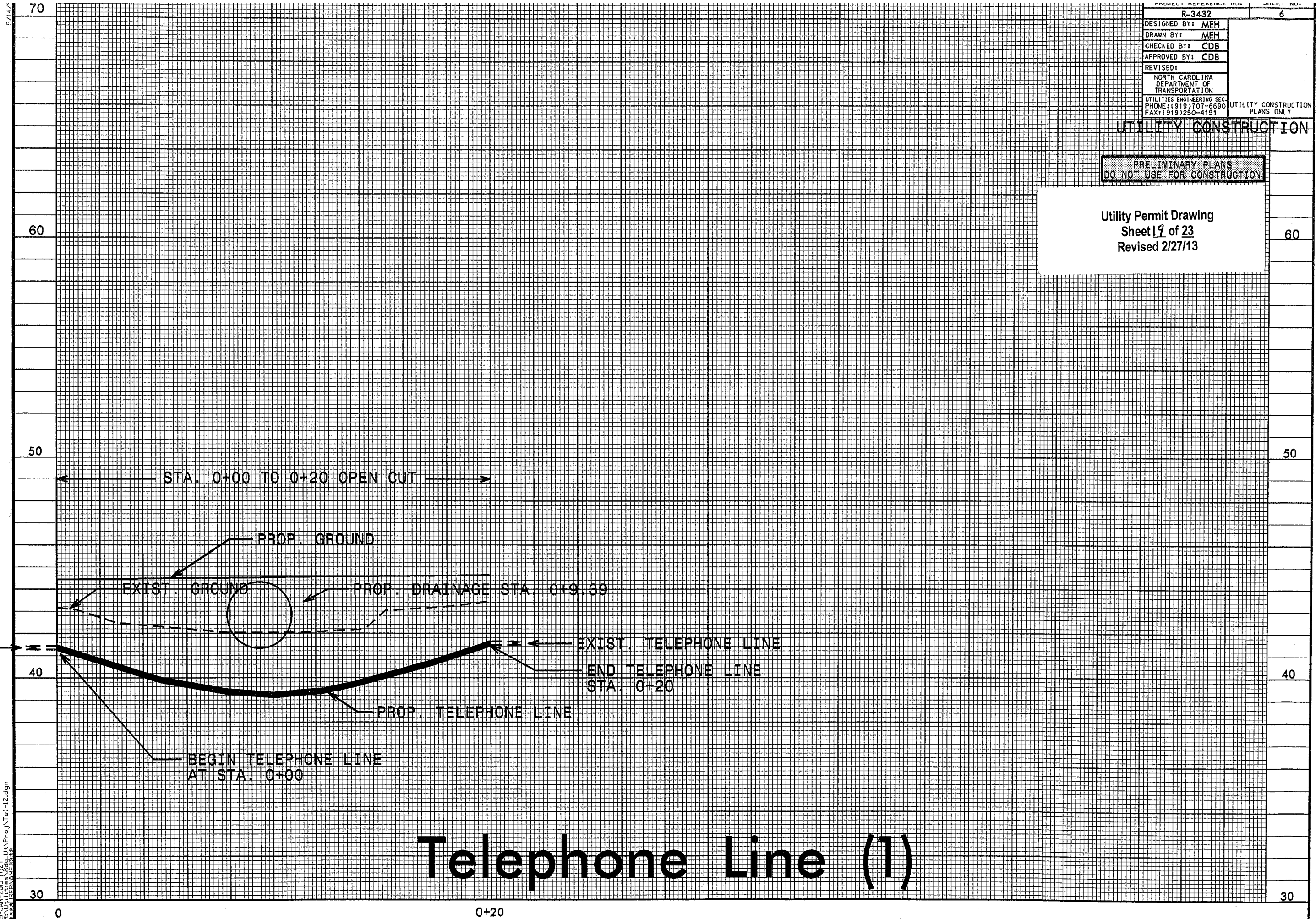
D:\WORK\PROJECTS\R-3432\14.dgn

PROJECT REFERENCE NO.	R-3432	SHEET NO.	6
DESIGNED BY:	MEH		
DRAWN BY:	MEH		
CHECKED BY:	CDB		
APPROVED BY:	CDB		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
			UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 19 of 23
Revised 2/27/13



Telephone Line (1)

15-JAN-2013 11:27 I:\Projects\Tel-12.dgn

5/14/13

70

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

R-3432		7
DESIGNED BY:	MEH	
DRAWN BY:	MEH	
CHECKED BY:	CDB	
APPROVED BY:	CDB	
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690		UTILITY CONSTRUCTION PLANS ONLY
FAX: (919) 250-4151		

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 20 of 23
Revised 2/27/13

60

60

← STA. 0+00 TO 0+20 OPEN CUT →

EXIST. GROUND

50

50

PROP. GROUND

PROP. DRAINAGE
STA. 0+10.87

EXIST.
TELE. LINE

← EXIST. TELEPHONE LINE

← END TELEPHONE
LINE STA. 0+20

40

40

← PROP. TELEPHONE LINE

← BEGIN TELEPHONE
LINE STA. 0+00

30

30

0

0+20

Telephone Line (2)

15-JAN-2013 17:56 U:\P\0\TEL-22.dgn
R:\Utilities\Projects\22\Sheet20.dwg

5/14/13

70

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

R-3432		8
DESIGNED BY:	MEH	
DRAWN BY:	MEH	
CHECKED BY:	CDB	
APPROVED BY:	CDB	
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		
UTILITY CONSTRUCTION PLANS ONLY		

UTILITY CONSTRUCTION

Utility Permit Drawing
 Sheet 21 of 23
 Revised 2/27/13

60

60

← STA. 0+00 TO 0+20 OPEN CUT →

50

50

EXIST. GROUND

PROP. DRAINAGE
STA. 0+10

EXIST.
TELE. LINE

← EXIST. TELEPHONE LINE

→ END TELEPHONE
LINE STA. 0+20

PROP. TELEPHONE LINE

40

40

BEGIN TELEPHONE
LINE STA. 0+00

30

30

0

0+20

Telephone Line (3)

F:\JAN-2013\1125_Utilities\Proj\Tel-31.dgn

5/14/

70

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

R-3432	9
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 22 of 23
Revised 2/27/13

60

60

← STA. 0+00 TO 0+20 OPEN CUT →

50

50

EXIST. GROUND

○ PROP. DRAINAGE
STA. 0+10

EXIST.
TELE. LINE

← EXIST. TELEPHONE LINE

→ END TELEPHONE
LINE STA. 0+20

40

40

→ PROP. TELEPHONE LINE
BEGIN TELEPHONE
LINE STA. 0+00

30

30

0

Telephone Line (4)

15-JAN-2013 17:25
R:\Utilities\Adv\Ut\A\Proj\Tel-41.dgn
\$\$\$\$\$

5/14/13

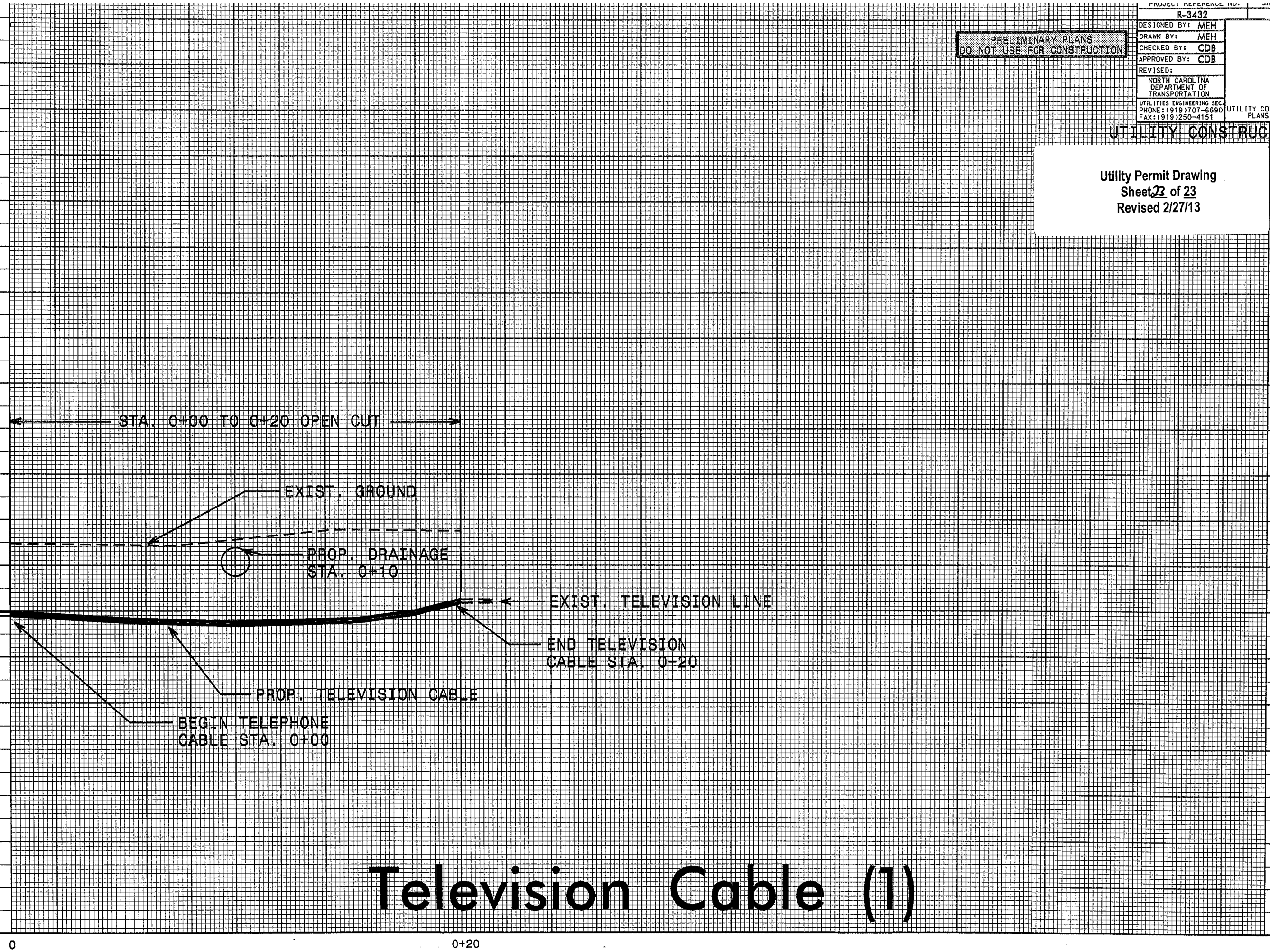
70

60

50

40

30



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO. R-3432	SHEET NO. 10
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 23 of 23
Revised 2/27/13

EXIST.
TV. CABLE

STA. 0+00 TO 0+20 OPEN CUT

EXIST. GROUND

PROP. DRAINAGE
STA. 0+10

EXIST. TELEVISION LINE

END TELEVISION
CABLE STA. 0+20

PROP. TELEVISION CABLE

BEGIN TELEPHONE
CABLE STA. 0+00

Television Cable (1)

15-JAN-2013 11:24 AM Proj\Tv-11.dgn

0

0+20

30

50

60

70